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RALPH W. TYLER

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KATE STRICKLAND
EDITOR

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RALPH W. TYLER

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Preface

In 1981, the Society for the Study of Curriculum History chose as the focus for its Fourth Annual Meeting to examine the work of a single individual whose contributions to the field of education have spanned over a half-century. The choice of this individual was particularly appropriate for a curriculum history group, since he had not only been a founding member of this scholarly organization, but had also directly participated in many of the studies and events which members discussed in their presentations. Moreover, he was the author of one of the most influential and oft-quoted books in the curriculum field, and was considered by many to be the father of the evaluation movement as well. To examine the work of Ralph W. Tyler was, in some respects, to examine the history of the past fifty years in both the curriculum and the evaluation fields.

This special topic edition of the *Journal of Thought* is composed of remarks made by various presenters at the Society for the Study of Curriculum History's retrospect on Ralph W. Tyler, as well as four edited presentations made by Dr. Tyler on other occasions. Together, they provide the reader with a glimpse of the thoughts, work, and contributions of one of the most influential men in American education. An interview with Ralph Tyler conducted by William and Ann Schubert begins the issue and provides the reader with an excellent summary of the general accomplishments of this educator. The focus then shifts to the Eight-Year Study, a classic experiment in the curriculum field, with the reflections of Dr. Tyler, who served as a staff member on the evaluation team, joined with those of Theodore and Chandos Rice, who began their own distinguished careers in education as teachers in one of the schools participating in the Eight-Year Study. This trilogy of articles on the Eight-Year Study (1933–1941) is concluded with Laurel Tanner's assessment of the impact of this experiment on the field of education.

Evaluation, for Ralph Tyler, has always been an integral part of the curriculum development process, and it is this theme which Benjamin Bloom explores in his recollections of Tyler's work in the Examiner's Office at the University of Chicago in the 1930s. Lee Cronbach, in the next article, discusses the consistency and clarity of Tyler's early writings on evaluation, noting their continued relevancy for practice today. Gordon Mackenzie then examines the historical context and impact of the Tyler publication, *Basic Principles of Curriculum and Instruction* (1949), which described his rationale for relating objectives, instruction, and evaluation. The focus on Tyler's contributions is next extended to the international arena by Vivian Edmiston Todd, as she discusses her use of Tyler's principles in post-World War II Japan.

For those who have not heard Ralph Tyler speak in person, his final three articles, as well as his dialogue with the Schuberts which concludes this volume, should prove to be fascinating. The three transcribed speeches, given between 1981 and 1985, demonstrate Tyler's keen mind and incredible memory. Like the dialogue, they also allow the reader to share his lively sense of humor and to sense his genuine commitment to improving schooling for children. Once, in response to a question about how he decided on certain career moves, he looked puzzled and replied that he "had just always gone where he was needed." That is, perhaps, the essense of Ralph Tyler's philosophy of life—a philosophy which has led him to be the incredibly productive individual whose contributions to education are chronicled in this retrospect of his work.

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University of Texas at San Antonio, 1986
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Ralph W. Tyler in Review: An Interview and Antecedent Reflections

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During the past year and one-half we have grown to hold the contributions of Ralph W. Tyler in high regard. This pertains to both his formative work in educational research, curriculum, and evaluation and his generous personal considerations.

Rather than relate a litany of his remarkable contributions to education over more than half a century in straight-forward fashion, we have decided to relate the story of our thoughts and conversations in an afternoon and evening when Dr. Tyler kindly joined us for dinner.

Most of what we will say pertains to our thoughts and anticipations about our talk with Dr. Tyler. We will then present brief samples of the three-hour interview which is printed in its entirety at the end of this volume.

Many kinds of thoughts and feelings raced through our minds as we drove to Chicago O'Hare Airport to pick up Dr. Tyler. Readings, memories of personal contact, and anticipations of the forthcoming conversation surged through our apperceptive masses on that Columbus Day, October 12, 1980.

We were about to pick up a man who had in the past made us feel at ease—as a friend. At the same time his contributions to education and his embodiment of educational history in the twentieth century made him something of a legend. Thus, we felt both the comfort and satisfaction that comes with anticipation of meeting a friend not seen for a while and the uneasy detachment that comes with admiration.

We remembered back to slightly more than a year before, when we had not yet met Dr. Tyler. I was teaching a course on Curriculum and Program Design at the University of Illinois at Chicago Circle. I knew that Dr. Tyler spent a sizable amount of time in Chicago as senior consultant for Science Research Associates. I knew also that he had an enormously busy schedule, and I had the suspicion that his consultations derived from service not only to prestigious groups but also to those who could not pay but were genuinely interested in learning from him. Being in the latter category, I gave him a

call; not surprised that he was not in, I left a message. A couple of days later, my office phone rang, and the voice said, "This is Ralph Tyler." He was most willing to speak to my class, which (when word spread) turned out to include other classes and faculty as well. As faculty and students noted, it was a most memorable and enlightening experience to participate as Ralph Tyler fielded questions about his curriculum experiences. These experiences became even more vivid to me when I interviewed Dr. Tyler as part of the work (with George Posner) to develop the beginnings of a genealogy of curriculum scholars.[1] He not only knew all of the major contributions to the curriculum field, they were his friends, neighbors, and colleagues; he had talked with, studied with, worked with, and/or taught, most of the curriculum scholars whose mentors and/or students we wished to know. And all the while he was most willing to devote time, energy, and consideration.

It was, interestingly, this very act of friendship that issued in our feelings of admiration and the uneasiness that accompanies it. Dr. Tyler is a man who pursued doctoral study under George S. Counts, Charles H. Judd, and W. W. Charters at the University of Chicago in the mid-1920s. The essays that he wrote while head of the Division of Accomplishment Tests at Ohio State University, collected in *Constructing Achievement Tests* (1934)[2], revolutionized the study of grading, tests, and measurements, setting forth a more comprehensive, student-oriented conception of educational evaluation. As evaluation director for the Eight-Year Study at Ohio State University, Dr. Tyler worked closely with Boyd Bode and consulted with John Dewey. It was in his practical encounters with teachers and administrators of the thirty schools of the Eight-Year Study that he began to build a rationale for the development of curriculum and instruction, later written as a syllabus for Education 360 at the University of Chicago. It was also during the Eight-Year Study that the use of workshops for teachers enabled situational specificity to be built into curriculum deliberation. This spirit of practical inquiry is often lost or distorted by those who rigidly apply *Basic Principles of Curriculum and Instruction*[3] as if it were a recipe. Nevertheless, the impact of this book continues to be far-reaching, indeed. The four topics or questions (purposes, learning experiences, organization, and evaluation) permeate the fabric of our schooling process. We see variations on their theme in curriculum books[4], accrediting instruments, teachers' editions of school books, curriculum guides, unit and lesson plans, and evaluation instruments. That *Basic Principles of Curriculum and Instruction* (1949) is translated into more than six languages attests to its international use. Many suggest that Tyler's international influence is at least as great as his impact on curriculum and evaluation in the United States, which alone is indeed formative.

While the above would seem more than sufficient contribution for one or

more careers, it is only a partial portrayal of Dr. Tyler's contributions. The Eight-Year Study was concluded at the University of Chicago when Tyler assumed the position of Chairman of the Department of Education there in 1938 at age 36. During his tenure at Chicago, he also served as University Examiner, and in 1948 became Dean of the Division of Social Sciences. At Chicago his work as administrator, teacher, and scholar brought a cluster of colleagues and students that include Benjamin Bloom, Lee J. Cronbach, Harold Dunkel, Virgil Herrick, Chester W. Harris, Carl Rogers, Robert Havighurst, John Goodlad, Herbert Thelen, Joseph Schwab, and others.[5] By the end of the 1940s Tyler began to formulate the idea of a center devoted to better teaching in the behavioral sciences. In 1952, under a grant from the Ford Foundation, the Center for Advanced Study in the Behavioral Sciences was established and Tyler became its first executive director, remaining in that position until his retirement in 1967.

Clearly, we thought, the above is contribution enough for several careers, but retirement for Ralph Tyler meant more activity. He continued his leadership in the National Assessment of Educational Progress, begun at the Center, and became senior consultant for Science Research Associates. Acting on the advice of his gerontologist, Dr. Tyler continues to increase his activities. He consults and teaches on a continuous basis, and at a moment's notice is able to recall the details of times, flights, persons, and educational problems at the places he visits. Were his pace to heighten he would need to master teleportation or the art of being in more than one place simultaneously.

All of this augmented our own sense of appreciation and the uneasiness that can accompany it. Adding to both were reflections that Dr. Tyler had also served as advisor to six U.S. Presidents (Roosevelt, Truman, Eisenhower, Kennedy, Johnson, and Nixon); director of the Examinations Staff of the U.S. Armed Forces Institute (1943–53); research advisor to the U.S. Office of Education; honorary life chair of the National Commission for Cooperative Education; member of the Steering Committee of the Committee on Studies of the Golden Anniversary White House Conference on Children and Youth during the Eisenhower administration; vice chairman for Panels on Innovations in Education of the 1965 White House Conference on Education; vice-chair of the National Science Board under President Kennedy; board chairman of the American College Testing Program; member of the board of directors of the National Society for the Study of Education; first president of the National Academy of Education; and board member of the Spencer, Stone Schwarzhaupt, and System Development foundations. He influenced National Science Foundation contributions to curricular reform and contributed to the policy structure of the Elementary and Secondary Education Act of 1965 and to the establishment of the

National Institute of Education.

Dr. Tyler's modest demeanor, however, has often obscured his accomplishments from his students, as exemplified by a comment made in 1976 by Robert H. Anderson:

> It was obvious that his was a powerful mind. His lectures, modestly delivered, were masterfully organized and the materials fitted together like a work of art. I realized that I was dealing with an exceptional educator. . . . Little did I realize, however, the influence that not only his curriculum courses but his broad-gauged other works had already had, and were destined to have, over the next 30 or more years, on American and world leaders in education. I didn't imagine, for example, that while I was shedding my navy uniform in early 1946, Tyler was the author of 131 articles, 7 books, 13 contributions to other books, 5 yearbook chapters, 23 published conference addresses, and 5 radio scripts.[6]

Today, his record includes approximately seven hundred published works, all of which are being located and compiled by the Ralph Tyler Project at the National Foundation for the Improvement of Education.

Even more unusual, however, is the character of Ralph Tyler, the person. Any feeling of apprehension at meeting him soon subsides when one meets him. For us, it subsided quickly as Dr. Tyler used a sharp whistle to notify us that we were about to pass his arrival gate at O'Hare Airport. Driving home, we apologized for the faulty accelerator on our car that tended to self-accelerate, and he explained his lack of fear of speed by telling us how he drove his Thunderbird from Chicago to California at an average speed of 130 mph before speed restrictions prohibited it. When we asked if he took anyone along to keep him awake, he replied that he wouldn't want to endanger the life of another.

The tendency to intersperse comments with humor was immediately evident in our interview, as was Dr. Tyler's steadfast attempt to focus on the personal basis of our questions. Time and again he demonstrated his desire to respond helpfully to our concerns and needs. No review of Ralph Tyler's contribution would be complete without this most important dimension. John Goodlad expressed it well by saying:

> Ralph Tyler appears not to have concerned himself with the potential impact of a given activity on his own career. If a task appeared worthy, needed doing and he could contribute significantly to it, he always has been willing to take it on. . . . Perhaps (his) greatest contribution has been the counsel he has given to thousands on an individual, person-to-person basis. It is . . . that combination of traits that makes a half hour

> with him so rewarding: the ability to concentrate exclusively on the problem before him and the ability to raise precisely the right questions regarding it. . . . Teacher, scholar, administrator, creator of institutions, policy maker, speaker, traveler, advisor to presidents, counselor, friend—Ralph Tyler is and has been all of these and, in all of these roles, always a student.[7]

We are fortunate to have spent a good deal longer than one-half hour with Dr. Tyler. We asked him a large number of questions that our exposure to his work prompted. The following are samples:

Selections from Interview

Early in our interview we asked about influences on his educational thought. He answered in terms of his experiences, and the Eight-Year Study stood out conspicuously among them. At one point he told of a meeting of the curriculum associates at which Wilford Aikin reported that his interviews with the heads of the 30 schools revealed that the evaluation staff was more helpful than the curriculum staff. It was brought out that Tyler had a rationale for evaluation but no rationale existed for curriculum.

Dr. Tyler casually reported that as they broke for lunch, ". . . I said to Hilda Taba, 'Shucks, we can produce a rationale for them.' She said, 'You can?!' I said, 'Yes.' And on a napkin I sketched out . . . basic principles of curriculum and instruction. . . . After lunch we brought that back to them and they said, 'That's just what we need.' But it was just bringing together all of things that had been coming."

We had long wondered about aspects of Tyler's own philosophy, and discussed with him the value of explicating a philosophy of the good life to serve as a basis for curriculum development. We asked him his own position.

He replied, ". . . I suppose no one is able to articulate fully what consciously or unconsciously he believes and accepts. But my view is that a good life for a human being is one in which he is continually seeking to become more human; which means, to be more able to learn, to be more helpful to others, to contribute, to try to produce a society in which others have a deep respect for the potential of every human being and an unwillingness to simply be served by other people."

At another point he elaborated relative to the meaning of this position for his own life. "As I get older . . . I have no interest in just lying around; I don't want to just rest—there's no fun in that. I feel that I am learning, growing. Each increment of education ought to open up new doors and new vistas of what it is possible to become, for me and to help others find the same thing. . . . I think people have infinite potential for development and

that the role of the educator is to help to encourage it—to help them find ways to open up vistas for them to explore and never to settle for less than continuous development."

We had long wondered about the propensity to translate policy guidelines or, more specifically, *Basic Principles of Curriculum and Instruction* (1949) into recipes.

To this, Tyler responded that if he were to work again educating teachers as in the Eight-Year Study, he would focus directly on the local level, saying: "The place where the action is, is in the local building and its environs. The teachers there, the pupils there, the parents who are associated with it—and (the need to) get together the kinds of questions we have to deal with here to have a good school and meet the needs of this community . . . but as they discovered in the Eight-Year Study, there is no formula. You've got to deal with problems in terms of the best knowledge you have in how to proceed. . . . People would like in some way to feel that their job has a formula . . . but that isn't a professional's way. . . . You can refer to principles . . . but the particular answer has to be evolved in terms of the situation."

Later, referring to needs in curriculum theory, he discussed the "need to tie it much more closely to practice and to the realities of institutions." He said, "There is a certain limit to which you can go without tying it to the realities of the situation (which of course is what Joe Schwab has said several times), i.e., without tying it to the *commonplaces*."

Having recently re-read *Basic Principles of Curriculum and Instruction* (1949), we were struck by the flexibility and richness of it as compared with frequent mechanistic interpretations. We were especially interested in its incorporation of emphases that it is often criticized for neglecting. For example, in 1977, Tyler called for augmenting the rationale by emphasizing the learner's active role and non-school curricula, two features that he did stress in the 1949 version.[8] He agreed that his recent emphasis was actually a reemphasis. Similarly, his use of the term *behavioral* intrigued us. It seemed quite broadly conceived. We asked about the frequent association of his work with proponents of behavioral objectives.

He responded, "It is true that I emphasize that learning is acquiring ways of thinking, feeling, and acting. In that sense it is behavioral, although I keep saying that any kind of reaction a human being is capable of, is *behavior*. But once you've got the idea that behavior is what the behaviorists emphasize (overt behavior), it's hard to think of another term, other than saying 'new ways of thinking, feeling, and acting' all the time."

In our viewpoint, one of the most important, but seldom emphasized distinctions set forth in the Tyler rationale is that between *learning experience* and *learning activity*. As clarified in our conversation, he said, "Expe-

rience is the interaction of the learner with the environment. Thus, we infer that it pertains, not merely to that which we ask students to do, but the altered perspective that evolves from the union of what they do in school with what they have learned outside of school."

In conclusion, this notion of experience is cast in bold relief by Dr. Tyler's response to a question that we asked about the difference between general curriculum problems and those of large urban areas. Interestingly, his response followed a brief discussion about transportation from our apartment to other parts of Chicago, in which he illustrated insights about inner city life derived from careful observation of fellow passengers, saying, "I like to ride the subway late at night to see the variety of people. . . ."

About unique curriculum problems in the inner city, he noted: "Everything in the world is like and unlike everything else. It depends on whether you want to emphasize the likenesses or the unlikenesses. In one sense, of course, a large city is as varied within its boundaries as the difference between the city and rural areas. Usually when they talk about urban education, they are talking about inner cities. We have a special problem with children who come from families that are uneducated, often from minority backgrounds, are limited in their support at home, because parents don't understand the school, and have a very limited geographic expansion of their experiences. So, the requirement to meet their needs, to understand where they are is in that sense special. The danger that I found in Detroit is that (educators) tend to talk about the things inner city children *have not got* that middle class children do. . . . I said, 'You can't build a program on what children don't have. You can only build it on their assets. Let's go out, each one of us, in a particular block in this neighborhood and watch children and talk to them, and then come back and tell us what are the assets you've discovered.' They are human beings; they are capable of learning; they are motivated to do things that seem important to them. The problem of curriculum is to come in contact with them. But the purpose, the basic objective, is to help them become more human, to acquire the outlook, the skills of communication, and other things that will enable them to extend their horizons. . . ."

This is the essence of the curriculum that Dr. Tyler has brought to us, and we suspect that it is the crux of the experiences that he has provided and continues to provide for many, many others on his travels throughout the world.[9]

We wish to thank Ms. Helen M. Kolodziey of the Ralph Tyler Project at the National Foundation for the Improvement of Education, 1201 16th St., Washington, D.C. 20036, for information that she kindly provided. This Project was begun by the late Dorothy Neubauer.

Notes

[1] W. H. Schubert and G. J. Posner, "Origins of the Curriculum Field Based on a Study of Mentor-Student Relationships," *Journal of Curriculum Theorizing*, 1980, 2(2), pp. 37–67.

[2] R. W. Tyler, *Constructing Achievement Tests*, Columbus, Ohio: Ohio State University, 1934.

[3] R. W. Tyler, *Basic Principles of Curriculum and Instruction*, Chicago: University of Chicago Press, 1949.

[4] W. H. Schubert, *Curriculum Books: The First Eighty Years*, Lanham, Maryland: University Press of America, 1980.

[5] J. A. O'Shea, "A Journey to the Midway," Unpublished manuscript based on: An inquiry into the development of the University of Chicago evaluation movement; Unpublished Doctoral Dissertation, University of Illinois, 1979.

[6] R. H. Anderson, "Review of Perspectives on American Education: Reflections on the Past . . . Challenges for the Future; by R. W. Tyler, D. Neubauer, Editor," *Educational Leadership*, May 1976, 33, pp. 625–627.

[7] J. I. Goodlad, "Introduction," in R. W. Tyler, *Perspectives on American Education: Reflections On the Past . . . Challenges for the Future*, Chicago: Science Research Associates, 1976, pp. 9–10.

[8] R. W. Tyler, "Desirable Content for a Curriculum Development Syllabus Today," in A. J. Molnor and A. Zahorik (Eds.), *Curriculum Theory*, Washington: Association for Supervision and Curriculum Development, 1977, pp. 36–44.

[9] For additional information on Ralph Tyler, see also: V. E. Herrick and R. W. Tyler (Eds.), *Toward Improved Curriculum Theory*, Chicago: University of Chicago Press, 1950; R. W. Tyler, *Perspectives on American Education: Reflections on the Past . . . Challenges for the Future*, D. Neubauer, Ed., Chicago: Science Research Associates, 1976: R. W. Tyler (Ed.), *Prospects for Research and Development in Education*, Berkeley: McCutchan, 1976: R. W. Tyler, "Toward Improved Curriculum Theory: The Inside Story," *Curriculum Inquiry*, 1977 *6*(4), pp. 251–256: E. R. Smith and R. W. Tyler, *Appraising and Recording Student Progress*, Vol. III, *Adventure in American Education*, New York: Harper and Brothers, 1942; and D. Warner, "Ralph W. Tyler," Unpublished paper prepared at Pennsylvania State University.

Research Query: **For a history of the education professoriate, I am seeking biographies and other information on late 19th and early 20th century professors of pedagogy in universities and normal schools.**

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Reflecting on the Eight-Year Study

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The subject decided upon, the Eight-Year Study, causes me some concern about what aspects you would like to hear about.[1] Those of you who have read the original five-volume report know that I am certainly not going to get into five volumes at this time.[2] I have also recently completed an article for the *New York University Education Quarterly* which focused on the methodology of the Eight-Year Study, and I don't want to repeat what was in that article.[3] Instead, I would like to briefly comment on the background of the Study, for those of you who are not familiar with it, and relate the more enduring results of the Study. I will leave time for any questions that you may wish to ask, since my memory for that period of time is quite good, even though it spanned the years from 1933 to 1941 and was thus completed almost forty years ago.

The genesis of the Eight-Year Study really came from two pressures that developed during the early part of the Great Depression. One of these was the obvious pressure brought by the fact that there were no jobs for adolescents when the Depression hit. Not only were 25 percent of the adults unemployed, but almost 100 percent of the adolescents were unable to find work. The response in the end to this pressure was to provide adolescents who needed money and didn't wish to go back to school with the opportunity to join the Civilian Conservation Corps (CCC). For those who wished to go to school, the National Youth Administration provided the funds for them to continue their schooling. This resulted in a tremendous growth in the high school enrollment. In 1910, nearly 17 percent of the age group 14–17 years was in high school. By 1930, high schools were enrolling 51 percent of the age group. Many of these students did not plan to go to college, and the necessity of responding to their needs was one pressure which eventually led to the Eight-Year Study.

The two kinds of curriculum efforts then in effect were a college preparatory program and the vocational program based on the Smith-Hughes National Vocational Education Act. The college preparatory program was very much as it had been after the report of the Committee of Ten. It required a certain number of Carnegie units in specified subjects, and in general those

courses were defined either by the College Entrance Board Committees, whose syllabi specified just what would be taught in each field, or in the West and Middle West by the state departments of education. The Smith-Hughes vocational program, designed to be responsive to the pressure of the farm lobby, was developed shortly after the Smith-Hughes Act was passed in 1917. Training in agriculture and home economics, as well as preparation in some trades such as auto mechanics, was provided under the program. However, the number of occupations for which training was provided was very limited. In 1937 the U.S. Commissioner of Education gave an address to the Conference of the American Vocational Association entitled "Education for the 85 Percent," and the Association adopted a resolution calling for life-adjustment type education. The statement made that led to the adoption of the Life Adjustment Commission was that the college preparatory program was appropriate for only about 20 percent of the high school enrollment. Another 20 percent could benefit from the vocational curriculum, leaving 60 percent needing life-adjustment education, to adjust them to life in general. Hence the Office of Education some years later set up a Commission on Life Adjustment Education for Youth. Headed by Ben Willis, then Superintendent of Schools at Yonkers, New York, the Commission developed this curriculum in 1947–1948. Despite the national effort, the Life Adjustment Curriculum did not succeed in really changing the overall pattern of high school education.

It was this persistent problem of what studies were appropriate for the youth not bound for college, however, that led a number of high school principals at their annual meeting in 1931 to try to get greater freedom to expand the high school curriculum for this population. They were joined in this attempt by a second group of principals who represented children from an entirely different sociological background—middle-class and upper-middle-class children who had attended well-known progressive elementary schools such as the Lincoln School in New York, the Beaver Country Day School, the John Burroughs School, the Germantown Friends School, and the Tower Hill School in Wilmington, Delaware. Educated following the general notions of Dewey, and in particular the idea that you could build on interest to get an effective program, they had a great deal of freedom in the elementary school. They chafed under the restrictions of the typical high school of that time, where students marched in and out as though they were in the military service and had highly restricted opportunities for movement. These upper-middle-class young people and their parents were clamoring for a change in the curriculum to allow for greater freedom. So the two pressures were brought together—principals who wished to free non-college-bound students from a curriculum dominated by college preparatory courses, and principals who wished to obtain freedom to pursue a more

progressive type of education for college-bound youth. These two groups were facing the state departments of education, on the one hand, and the college boards and the colleges themselves, on the other hand, as they sought this greater freedom.

The Progressive Education Association, which was chaired by Willard Beatty, Superintendent of Schools in Bronxville, New York, decided to take the lead and try to work out some arrangement to obtain more freedom for the high schools. They established a Commission on the Relation of School and College, and brought together representatives of high schools that wished greater freedom, with representatives from colleges and some of the major state departments of education. The Commission eventually proposed to these colleges and all the state departments a project which came to be known as the Eight-Year Study. The provisions were that a small number of schools would be selected by a directing committee, and these schools would be permitted for a period of eight years to work on the design of a more effective educational program for their students. Their students would be admitted to college on the basis of evidence about their abilities, without regard to whether they had met the particular course requirements that were specified for college admission. Similarly, they would be graduated from high school without regard to whether they had met the particular course requirements that some state departments of education had established for high school graduation.

In exchange for this agreement, and as part of the proposal for the Eight-Year Study, an evaluation program was to be developed. This program was to collect information on the students which would furnish a record sufficiently detailed to allow colleges to make a wise decision about admission to their institution. The evaluation program was also to allow the state departments to see whether or not the schools had taken their freedom with some sense of responsibility. It was to follow the graduates who went to college to see how well they performed in their college work, and it was to follow a sample of those who went directly from high school to occupations to see how well they got along. It was also to provide a means for what is now called formative evaluation—a means of feedback to help the schools find out what students were learning as the school moved along in trying to design the program.

This, then, was the essence of the plan which was finally approved, between January and June of 1933, by about 300 of the universities and colleges in the country and I think by all state departments of education. The directing committee considered a variety of applications that came in and finally selected some thirty schools and school systems to participate in the Study. I say schools and school systems because there were, for example, a number of public school systems in which only one high school in the city

participated, as well as systems which had only one high school for the whole city and thus one school involved in the study. On the other hand, all of the Denver high schools were in the Eight-Year Study, as were all the Tulsa high schools. In Los Angeles, however, only the Eagle Rock High School was in the study. When you counted the individual schools, then, there were considerably more than thirty, but it is usally referred to as the thirty schools study because the administrative responsibilities were in the hands of thirty schools or school systems. The study did include five schools connected with universities: the Horace Mann and Lincoln Schools connected with Teachers College, Columbia University; the University School of Ohio State University; the University High School of the University of Chicago; the University High School of Madison at the University of Wisconsin; and the University High School at the University of California at Berkeley. These schools, along with twenty-five other public and private high schools across the country, were the schools that started out with the new program in September–October of 1933.

The original plan for evaluating the Eight-Year Study had been engineered by the Carnegie Foundation, the group which provided the initial support for the endeavor. A new test was being developed by Ben Wood of the Cooperative Test Service, which was also supported by Carnegie, and they felt it would be an appropriate means of evaluation. But at the end of the 1933–1934 school year, the schools discovered that these evaluation instruments were just not appropriate, and did not reflect the new curriculum. At a meeting at the Princeton Inn in June of 1934, the schools gave an ultimatum that they wouldn't continue with the project if they were going to be evaluated by these kinds of tests that were inappropriate for the program at this point. The Directing Committee of the commission was at some loss as to what to do. One member of the committee was Boyd Bode, the educational philosopher at Ohio State University who had his office across the hall from me. He proposed that they bring me in to talk about how such an evaluation might be carried on, and I appeared there one morning at the Princeton Inn and talked with them until noon. In the afternoon they had a closed session and finally at the end of the day asked me to take responsibility for the evaluation. So that was why I was connected with the Eight-Year Study from 1934 until the reports were written in 1942.

As I began to work with the schools, it became quickly apparent that although the schools were free to develop curricula, it took much more time to work out new programs, to develop necessary resource units, to decide how to teach them and so on, than teachers had in their regular planning periods. At first, in answer to this problem, we started meeting with them on weekends. Every weekend we'd have committee meetings someplace in the area: in Boston for the schools in this area, in New York for the schools in

that area, in Philadelphia for schools in that area, in Columbus for the schools in that area, Chicago for those schools and so on down the list. It then became so clear that they needed more time that I obtained funds from the General Education Board of the Rockfeller Foundation to bring leading teachers from the schools together to work on common curriculum problems such as the social studies program or the core curriculum. We began these meetings in the summer of 1935, and in many cases entire teams from the same schools were able to spend the summer working out what they would do in that area, with the evaluation staff serving as consultants for them.

In addition to bringing teachers together to work on aspects of the curriculum, we also felt there was a need to set up certain kinds of studies, such as the study of Caroline Zachry at Teachers College on adolescent needs. We therefore developed a series of subcommittees to study areas like science, mathematics, social studies, and general education. Each academic subcommittee was to determine what it saw in its subject field which would be helpful to adolescents at this time. The general curriculum subcommittee was concerned with the problem of the nature of society and the changes which had occurred. The subcommittees contained many creative people who served as consultants for the teachers, including Helen Lynd, who with her husband Robert wrote the famous book *Middletown*, and Elliott Dunlap Smith, who worked intensively with the mathematics program. With a variety of people available to provide back-up recommendations about subject areas, and to serve as consultants, the teachers were able to work out what seemed to them to be programs appropriate for their schools. We on the evaluation staff were developing what we called inventories—interest inventories, activity inventories, and experience inventories—to help the teachers find out about their own students—what they had done, what their assets were, what experiences they had on which they could build.

This process of meeting with the teachers continued throughout the study, and each year we provided help in evaluating the progress made by the students. We would identify problems, and work with the teachers to revise the curriculum in light of these problems. Finally, by the end of the study, we had been able to follow the first graduates of the new curriculum for five years. A book called *Did They Succeed in College?* was the follow-up of those students from the first group who had gone on to college. As you probably know, the results were that the students who came from these new curricula did as well or in some cases somewhat better than students paired with them who came from other kinds of programs. The experimental group was also fully as effective in their employment. These results seemed to me to establish that a local school, with the participation of its teachers, and with the help of consultants with information and recommendations of the sort we provided, could build programs more appropriate to the needs of its students

than would be possible by simply depending on a curriculum made at some distant level. That, it seems to me, is one of the findings of the Eight-Year Study which seemed to stand out.

Another outcome of the Eight-Year Study which seemed to stand out was the fact that the so-called achievement tests were not designed to find out what students had learned in particular kinds of curriculum. In fact, they were developed in a technology that was concerned with arranging children on a continuum from the best to the poorest. They concentrated on discriminating items, and, if you examine these tests, many of the items are not things taught in school, because things that are taught in school tend not to be discriminating. The lack of appropriateness of these achievement tests was recognized very soon in the Eight-Year Study; unfortunately it is not yet fully realized today. State and local programs of testing still use tests not designed to assess what students have learned out of the things that have been taught, but rather to show which students are higher in some total definition of the brain. These types of tests are not at all appropriate for seeing if the curriculum is working or not.

The amount of time needed to effect change in the curriculum was another thing we learned from the Eight-Year Study. To accomplish changes in the curriculum, which included decisions on what is to be taught, decisions on the kinds of learning experiences to be provided, the working out of necessary instructional materials or selection of them, required a good deal of time. This process cannot be done offhand in a few hours, after school, or on weekends. In this light, we are reminded of a recent study by the University of Illinois Center for Instructional Research and Curriculum Evaluation (CIRCE) done for the National Science Foundation, which focused on what happened to the science curriculum developed under federal support fifteen or twenty years ago. They found that in general only a small percentage of the schools were still using the curricula, but that when they were using them, they were often used just as though they were materials to be memorized, rather than as an inquiry program, which was the original intention. This reminds us again that the curriculum is vital—that is, what goes on where children are being educated has to go through the minds of the teachers and be understood by the teacher. If the plan doesn't include an adequate teacher education program in connection with it, one will find that curriculum reform hasn't actually taken place, as in the case of the federally supported science programs studied by CIRCE.

In connection with the time issue relative to curriculum development, I should mention that we found this integration of curriculum development and teacher education also required a great deal of time. This was the purpose of the summer workshops we held with the teachers; we gave the name *workshop* to it, by the way, to indicate it was a time for heavy work.

Now I see the term "workshop" applied to a day program, which doesn't seem very hard to me. How much can you do in one day? We had in mind a serious endeavor. Usually the workshops were at least six weeks in length so we could get something done; they were not casual encounters. Promiscuity doesn't take the place of marriage. Somehow we've got to recognize that working on a curriculum does require a good deal of time and effort. I think that is another thing we learned during the Eight-Year Study.

Finally, we learned in working on this project about the many people with great potential in education who can develop if they have an opportunity. I was reflecting with my companion at lunch today on the number of persons we found through the Study. For example, Hilda Taba was working as a teacher of foreign languages at the Dalton School and was about to be deported because she came in on a student visa. We were able to employ her and she became an outstanding person in the curriculum field. Herbert Thelen, who was teaching chemistry at University High School in Oakland, and Chester Harris, who was teaching at East High School in Denver, are two more examples. Another person much better known, though not for his work in evaluation, was James Michener, the writer, who was teaching social studies at the George School. The point is that if we find people who are in positions in teaching and enable them to demonstrate what they can do, the opportunity for developing creative people is very good.

Question and Answer Session

Question: I read a dissertation at the University of North Carolina about a year and a half ago on the Eight-Year Study. It claimed that your entry into the project marked a discrete and direct change in the focus of the study—moving from a project that in the beginning was geared to just being experimental to a project which involved the evaluation of an experiment. Is that a fair account of things from your point of view?

Tyler: There was a great change in the study beginning in the fall of 1934 when they realized that the General Culture test, which they had proposed to use, would not test what they were trying to do. The Evaluation Staff was the only staff for the study at the time; the Curriculum Associates were established later. So I suppose it is true that we provided a stimulus, and one of the important stimuli was looking at what happened, What did the kids learn? Is it what you intended or do you need to modify it?

Question: If one wanted to be unkind, one could say that it was a typical Progressive Education Association venture until you entered the scene.

Tyler: The Progressive Education Association was an association of individuals and schools who shared a common effort to gain mutual support in trying to do what they believed John Dewey recommended. There was an

awfully wide variation among the schools and people who belonged to the Association; in some ways it's like asking if the National Education Association stands for anything. But even though the PEA had a wide variety of people in it, it was able, under the forceful and dynamic leadership of Willard Beatty, to get the funds for the study and bridge the gap. I believe that many of the schools had no prior connection with the Progressive Education Association.

Fred Redefer, who was at that time the Executive Secretary of the Progressive Education Association, later wrote his dissertation on the Eight-Year Study while at Teachers College, Columbia University. He felt that the enduring effect of the Study would be the core curriculum. At that time, there was great interest in problem orientation—in helping kids to find problems to study which would require knowledge from various disciplines. One way to do that was to have a core curriculum. This curriculum was usually offered for half a day and taught by a method which we would now call team teaching. It brought together a number of teachers from several disciplines, usually social studies, English, science, and perhaps mathematics, who would then organize projects into units. For example, at the George School, which I mentioned previously, James Michener was one of the core teachers in social studies, and he was responsible for bringing in the history of a particular topic, such as "Pennsylvania." A German teacher greatly interested in Pennsylvania Dutch contributed material in this area, while other content came in writing and English. Redefer believed that the Eight-Year Study should have shown the success of the core curriculum in integrating various types of materials. When he found that the core curriculum did not continue much beyond the length of the Eight-Year Study, he concluded that the Study wasn't very effective in changing the curriculum. In my opinion, however, no particular form like the core curriculum is the answer to improving education; the important thing to my mind is discovering what you can work out to meet the needs of your students.

Question: Will you comment on the National Assessment of Educational Progress and the current controversy about testing in relationship to this perspective?

Tyler: We have reached a point where the conflict between the concerns of teachers about tests which will help them to determine what children have learned, versus the long tradition of viewing testing primarily as a sorting process (to find out which students are the best, which are going to college) has got to be resolved. I recommend you read the report of the national conference on testing held at Cape Cod in August 1978.[4] Mine was the initial paper presented; it argues that there are thirteen different uses of testing and that each one requires a somewhat different test with appropriate techniques. We've been trying to do everything with the one kind of test which came out

of this tradition of sorting; unfortunately that type of test was not effective in determining whether the student had learned what the school tried to help him learn. Actually, when we were working on the National Assessment, we found that almost 50 percent of the items on the typical achievement test were not part of the curriculum of most schools. This may account for so much variance in these test results in terms of the cultural background of the children; if these items are not being taught at school, some children must be learning them in the home.

Question: What prompted my question was that you encountered this problem in the thirties and we still are confronted with it today. Do you have any words of wisdom as to how we can get out of that bind a little more quickly?

Tyler: It must be an important problem. It keeps reoccurring, like alcoholism.

Question: Was consideration given to following up students who did not go to college? I know that was not central to the study, but was any consideration given to that issue?

Tyler: In Tulsa and Denver, where we had a large enough group of non-college-bound students to follow up, these individuals were followed into their occupations. We found, as you might expect, that in general they were more likely to be employed. The effort to build a curriculum which tries to capitalize on the interest of students is likely to be more effective than a traditional curriculum. Information on that part of the study should be in the third volume of the Study, the one which appraises the thirty-school project.

Notes

[1] Presented at the Society for the Study of Curriculum History Annual Meeting, 1980, Boston, Massachusetts. Transcribed from tape of lecture by Jenny Wojcik; edited by William Schubert, Ann Schubert, Helen Kolodziey, and Kate Strickland.

[2] The five volumes recording the Eight-Year Study, all published by Harper and Brothers under the over-all title of *Adventure in American Education*, were: Vol. 1, Wilford M. Aikin, *The Story of the Eight-Year Study*, 1942; Vol. 2, H. H. Giles, S. P. McCutchen, and A. N. Zechiel, *Exploring the Curriculum*, 1942; Vol. 3, Eugene R. Smith, Ralph W. Tyler and the Evaluation Staff, *Appraising and Recording Student Progress*, 1942; Vol. 4, Dean Chamberlin et al., *Did They Succeed in College?* 1942; and Vol. 5, Each of the Participating Schools, *Thirty Schools Tell Their Story* (1943).

[3] Ralph W. Tyler, "Landmarks in the Literature: What Was Learned from the Eight-Year Study?" *New York University Education Quarterly* 11, Winter 1980, pp. 29–32.

[45]Ralph W. Tyler, "Educational Objectives and Educational Testing: Problems Now Faced," in *Testing, Teaching and Learning: Report of a Conference on Research on Testing*, Washington, D.C.: Government Printing Office, 1979, pp. 36–47.

The Eight-Year Study at East High School, Denver, Colorado

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with comments by **Ralph Tyler**

Ted Rice: The setting of the Eight-Year Study was after the Great Depression and before World War II. The Denver schools had some reputation for curriculum experimentation, which although different in nature from that carried on in the Eight-Year Study, provided a setting which allowed us to move more rapidly than we might otherwise have done. Namely, the Denver curriculum program was one of curriculum construction departmentally, with teachers being involved early in the process. The curriculum was not planned by a curriculum specialist; rather, time for curriculum development was provided by the school system, and the new teacher was involved early in the review of the curriculum in their area. So, although we had to move away from the concept of departmental curriculum planning, the idea of teacher participation in curriculum development was not something that had to be innovated for the Eight-Year Study.

Let me just remind you that we were freed from the restriction of college entrance requirements, and that while this sounded like irresponsible freedom, it ws a very sobering thought. We had to know these kids well enough to recommend them for college admission on some other basis than the completion of sixteen Carnegie units. This required a certain degree of depth of understanding about them, so that the structure demanded a rechange. At East High School, we went to what they called "block time" or two periods—two teachers. That was our original "core" setting, designed to give us some continuity with the kids. Unfortunately, it didn't hold up budgetarily too long because it was two teachers with too much teacher-time charged off to that paradigm. In our work at East High School we later modified the program in a way which we thought would stand up in a budgetary sense: six teachers planning jointly for six periods, with the students staying with the same six teachers for all three years of high school.

In developing our program at East High School we were concerned about working with three general principles—principles which I suspect Ralph had

a very deep investment in seeing stated. The principles of democracy which we were committed to included respect for the sacredness of the personality—you don't shove people around; it was the use of the method of intelligence; and it was the involvement of participation as a learning experience. These three principles, plus the responsibility of operating an educational system that wasn't shackled to sixteen weeks in a semester and fifty-minute periods, gave us both freedom and a demand for innovation in the environment.

Chandos Rice: I think this thing of freeing us from the single period with students, and saying that for three years of their high school experience they would be with the same two teachers in the classroom, was tremendously important. At first, since we had come from a straight traditional program, we saw the experience as one of an English teacher and a Social Studies teacher—those were the two subjects we initially combined—to be one of the teachers working together to relate their subject fields. I remember that I had at that time an American literature class and an American history class that met at different hours of the day. Only about half of the class had me for both periods, so I was eager to have this combination of subjects. Well, after attending the workshop that summer at Sarah Lawrence, that type of experience didn't turn out to be satisfactory. During that summer, Ralph and his staff kept saying to us, "But how do you know that students care anything about all that American history and American literature? What do you really want them to do? What do you want it to be like?" It was during this process that the development of the evaluation instruments to be used in the Eight-Year Study really began to influence us. Ralph would ask, "Do you just want them to have read so many books, or do you want to know that they're going to continue to read? Do you want to know that they've been told they should have certain attitudes, or do you want to work with them on their attitudes?"

It was out of this type of questioning that the concept of teacher-pupil planning in the classroom developed. Ted's and my first experience with this concept was one in which we had an exploratory period with the students. One girl, Zo Newman, had been reading *Ghost Dogs of Sunnybank*. She stood up and spread her arms out wide and said, "That's what I want to study about—mental telepathy and things like that." We went out of the classroom that day and into our work period and said, "What can you do with that?" So then we went to the library and tried to find that material, and in those days there was no material. We just came back honestly to the kids and said, "There isn't any material; these are the only things we've been able to find. Are you really interested in ghosts or are you interested in how other people affect your thinking?" They came back and said, "Yes, that's what we want to do." And so we had one of the best teaching experiences with youngsters that we ever had.

When we moved to the enlarged "core" with six teachers meeting six periods a day, we said, 'Ah, the thinking unit is perfect." Of course it flopped, because it hadn't come from the kids. And so we learned that no two classes could be alike. It was at that point that we found we could think through each *suggested* unit together as a group of teachers. We used what we called then a flow sheet, which began with student problems, then knowledge, skills, attitudes, appreciations, and interests. It was seven columns long, and at the end were the experiences you would provide to go with the problem and all of the related objectives. The use of this flow chart turned out to be one of the most valuable things that we did because it gave us, as a group of teachers, the depth with which to meet anything that came up from the students themselves. We did that for every unit, and when we went into the classroom, we were able to say, "Here are resources, here are ideas, we haven't thought of that one, but we'll find this one."

Ted Rice: I would like to move along and comment on the work of the evaluation staff in the Eight-Year Study. As we went into the experiment, there were two teams from the Study working with us—the curriculum staff and the evaluation staff. The curriculum staff had a kind of eight-ball behind them, and in front of them, because we also were specialized in the subjects we were supposed to be teaching. In a way it was harder for them to communicate with us because we had to unlearn what we thought we knew to communicate with them. The evaluation staff, on the other hand, were really courageous enough to make us think our way through to identify appropriate behavioral objectives.

They said, "Why are you doing it? What modifications of behavior do you think might occur from it? What are the ways in which you know these are genuine interests of kids?" And so the evaluation staff were our gadflies and also our resource people, as well as being impeccable technicians. Ralph, by some miracle in these days, kept those evaluation instruments which were developed from being made normative. This allowed us to continue to use the instruments clinically and analytically, and the kids were not threatened by them.

Chandos Rice: I think Ralph and his staff were concerned about making the evaluation instruments normative; after all they had this long follow-up study to make. As a teacher in the classroom, however, I wasn't concerned about that at all. I was eager to get them because they were a way of diagnosing what was happening with our students; they were a way of discovering what their interests were. I remember an interest test that we got back too late: it had shown a child who had exactly zero in every field of interest. He had committed suicide the month before. If we had gotten that in time, it was the kind of thing we could have used to see that there was something wrong in this child, even though he didn't show that he had a

problem. We made use of another test, the attitudes test, to find out the social attitudes of the children. We found that they were pretty good in their attitudes towards Blacks, but their attitudes toward the Spanish in our community was below zero. As a result, we looked for experiences that we could have out in the community that would give them a chance to work person to person on a project with Spanish children. We hoped these experiences would cause them to come back and say, "Oh, he's a good Joe," and change their attitude toward the Spanish in our community. We also developed a cumulative record in reading, because the evaluation staff said to us, "Do you want them to keep on reading, or do you want to know that they've read certain things?" We modified our program in two ways: the students themselves purchased a library of contemporary reading, instead of textbooks, and they also kept a cumulative record of their own reading. They wrote no book reviews: instead each person kept a record of his own reading with simple comments like "I like this; I didn't like it" and that was it. The students also had a cumulative record of their overall progress and grades in all of their various subjects, because guidance was incorporated in what we were doing with them.

Ted Rice: I want to share my experience with the cumulative reading record. Bill Schwab had read sixty detective stories in his reading record during the year. I said, "What a morbid little Joe," and I tried to elevate him by getting him to distinguish between Gardner and Conan Doyle and what not. The next year he was reading science fiction and non-fiction; now he's one of the leaders in Schenectady's branch of General Electric. What he was trying to find out was how you prove something. If I had taken the flat description, I'd have said, "Quit reading those detective stories," and I could have gotten in his way.

I want to move to another element of the Denver program which I think was important to our success—the continuity of the pupil-teacher relationship. Having the kids with the same teachers for three years made it possible for us to establish for ourselves that there are continuities in learning relationships. When you get to know the kids that well, you know it isn't just history, it's history-literature, it's economics, it's physiology, it's the works. The continuity also made it possible for us really to get acquainted with the parents, and it allowed the parents to become acquainted enough with us that they could make us a part of their agenda as to what we were doing with these kids. That involvement to that level, I thought, was priceless. Now, as I look at it, we stopped short, perhaps because of the war. We didn't get on into the community deeply enough. Later on, we asked one of the curriculum specialists in the Study why, when he rewrote his book on the curriculum, he didn't involve the community, he said, "I'm too old, damn it!" In other words, we didn't push the impact of that continuity into

the community as much as was possible. There were many other things which we didn't get done in the Eight-Year Study; futurism was not in the vocabulary and planning was considered socialistic in the 1930s. The idea of where we were to go in the future had only begun. After the war, many people ran around trying to make dissertations of the hubris of the interrupted Eight-Year Study, but they didn't follow up the people who had been involved in the study.

Chandos Rice: I would like to add just a little information about the fields that were included in the "core." The six teachers who worked with these students for three years each had a different major: guidance, social studies, English, math/science, home economics, and art. Whenever we planned together, we had the thinking of all six specialties that went into the experiences we developed. We planned with the students and we planned with their parents. If one student was unhappy with my approach, or the approach my class had decided upon, we could easily move him into one of the other classes for the study of the unit. We had one wing of the building for our classes, and we were able to move students back and forth. I don't remember what all of the units were, but I do remember the last unit we had with these students, and I would like to close with a description of it. During our last semester with these kids, the first half was spent in work experience. The work experience was planned by the parents, because when we started to plan it, they said, "You talk like school teachers. Business people will know what we're talking about." So the parents made the contacts, and the students worked half a day out in the community. We supervised by going to the places where they were working, and they came back and wrote a paper on their experience. When the students returned to campus, their final unit was a unit called "What makes life worth living." This was their idea, and they looked at art and music and poetry. Although they'd been reading all the usual things all the way through high school to keep up with their peers, "What makes life worth living" was their choice for their final unit in high school.

Questions and Answers

Theodore Rice, Chandos Rice, Ralph Tyler

Question to the Rices: How did the Eight-Year Study affect you professionally?

Ralph Tyler: They got married; that's one way. They met at the Sarah Lawrence workshop.

Ted Rice: Professionally, the Study affected me in so many ways. I was going to mention the effect of participating in the workshop method itself; even Harvard changed its word "seminars" to "workshops" for a while.

Actually, what the workshop did was to lead teachers to work with children like they worked with each other in workshops. The effect of it was very much more permeated than just professional workshops. The way we worked as teams of teachers we learned in part from what happened in the Sarah Lawrence and Rocky Mountain workshops and many others we got to. And many faculty meetings turned out to be something other than just faculty meetings.

Question to the Rices: Did it encourage you both to go on in education as professor-types, as academicians?

Ted Rice: Well, I think professor-types would have turned Chandos off. I'd have lost her if she thought she had to be a professor. I went into the professorial ranks and she said, "I want to be where the action is." She stayed with the schools and I hope it gave us both a sense of reality.

Chandos Rice: Well, I think it did. It was fun to teach in universities in the summer, but I wouldn't have wanted to spend my life that way. I really wanted to work where I could work with teachers and help them do a creative job. And I can't think of anything different that I did as a curriculum director that I had not learned to do as we were working in the Eight-Year Study, except that I hope I became better at it as I went on.

Question to Ralph Tyler: In the Eight-Year Study, you and your staff gave much attention to the problem of testing the attitudes and ideals required of socially effective citizens, despite the difficulty of measuring attitudes in comparison with measuring for information. You really took us far from where we were. Yet, we have not continued to concentrate attention on this problem. Why not, and what can educators do to improve the situation?

Ralph Tyler: We developed these instruments to help schools and the teachers do the things that we were trying to do—to understand what children's interests were, to know more about social attitudes, to see how they might be developed and matured. These instruments were tools. Now, the trouble with getting information on youth is that we still have a long tradition that tests are primarily to grade students. We use tests to sort students, rather than thinking of tests as doctors. We still treat teaching as though it were like putting on a play—the teacher has what they call methods, and a role to play—and we don't look at the audience. We need to reach a point where we're more like a physician whose role is to understand the patient, to try to see what's happening. A good physician uses lots of measures because he's interested in finding out about the patient. But if we still have the tradition that we've got a method procedure, we think of ourselves in terms of teaching methods rather than in terms of understanding our students and seeking to help them learn. I think that until we move away from that tradition, we'll have skewed tests and always be thinking, "Will

he get into some prestigious institution? Will he get the right grade? And so on?" Now, we're sorting rather than understanding the students that we're teaching.

Ted Rice: There's another little footnote. This is a Rice speculation. Teaching during the time of the Eight-Year Study was pretty much a whole act. The guidance profession had not become specialized, and the things we were trying to do were behavioral in terms of guidance, as well as instruction and teaching. Now in this sense I think since that time we have segmented these roles; our specialists are here for guidance and our teachers are more nearly instructors than teachers. So that in a way we've impersonalized some of our knowledge. Now I don't know whether that will hold together with the rest of this table, but I'm speculating on that as an interference.

Chandos Rice: Just to add to what Ralph said about this. I can't remember our having been concerned with any tests after the fact. The evaluation that our students did was a self-evaluation just as the reading record was a self-evaluation. They decided what they needed, how they wanted to improve, and they did that regularly. We had regular sessions when as a class we looked to see what they wanted to work on this semester, saying, "I'm not very good at this. How can I become better at it?" The evaluation they sent to their parents, you know, was not a report card, but was a letter which the student wrote. The teacher added to the letter, and the parents added to it when it came back. The letter was a three-way evaluation of the progress of each student.

Ralph Tyler: You understand that in the Eight-Year Study each of the thirty schools or school systems were free to develop the programs that they felt would best meet the needs of their students. We had tremendous variety when you consider that the Will Rogers High School in Tulsa, for example, was in the lowest economic area in that city, while East High School in Denver was in an upper-middle-class area. The only respect in which the evaluation staff was asked to help, other than in helping teachers achieve their objectives, was that we were required to produce a record about students that would enable an institution of higher education to make a decision about their selection. We did collect information about students which colleges found quite useful, which allowed them to make decisions about college entrance even though the studets had not met the course requirements.

The other thing we were required to do, in terms of my employment as Director of Evaluation, was to be able to collect evidence of the growth of students in various programs. We needed to determine whether there really were growths in these different areas that the teachers were concerned with, and ultimately to follow up the students several years later. We followed them on into college, and you may have seen, "*Did They Succeed in*

College?"; that was one of the books. But in any event, it was a highly decentralized operation. As staff, we would get into my car and drive to St. Louis to work with that school and have weekend workshops, and then we'd drive on to Tulsa and back. Then we'd take a long trip, 800 miles Saturday afternoon to Albuquerque and spend the night, driving all the next day to Los Angeles so we could work with that group. We couldn't afford in the Depression to fly so much, but we worked with the schools in a decentralized operation. Our role was to help them to achieve the goals which they were developing and changing. They started off with conceptions which were limited to their present experience, and as they moved along with it and learned more about the students, these goals changed. The effort always was to help those studens achieve their potential.

Question: I have one more question, Ralph. What kind of experimental curriculum study would you like to see today at the secondary level?

Ralph Tyler: I believe that the United States is so diverse, and the learning problems are not all universal, and I believe it would again be the effort to get a group of schools interested in trying to identify learning problems in their own system and have opportunities for unusual learning because of their situation, and help them try to achieve those goals. I think that in curriculum development it is necessary for people to look at the children in the situation they have there and see the ways by which on the one hand they can at least reduce some of the problems they find in learning in that community, and be able on the other hand to see new opportunities for learning far beyond what they have done before. The best kind of program is one in which the schools do it individually. I was a member of the Organization for Economic Cooperation and Development team that visited, among other countries, France, to see how they were meeting the conditions of economic development, and they claimed to have a highly centralized system. You get out in the sticks and there, just as here, there's no necessary connection. You may have seen the bar association report that many teachers didn't know about the statutes of the state in which they teach. They in fact were surprised to know that in Illinois you must spend 30 minutes every week teaching the evils of alcohol. They didn't even know about it. Many of them had never thought of these evils. If I were trying to get reforms, I would try and work at the grass roots level where the children are.

Gordon Lawrence: I was a teacher in the Denver schools at the same time as the Rices, in a junior high school that was a feeder to East High. Beginning in 1936, which was in the middle of the Eight-Year Study, these same practices began to be used in the junior high schools. I was a member of the group trying to use them. We had teachers who remained with their group for three years, 7–9th grade, who began with their students for half the day in the 7th grade (3 periods a day) and . . .who worked as a team of

teachers. There were six teachers involved—the English and Social Studies were the teachers who were the primary teachers and then the math, science, physical education, and art all became involved in the planning and counseling. There were the same features that you mentioned that were begun in some of the junior high schools in Denver. All of this ended, though, about 1942 with the beginning of World War II. Many of the teachers then left the schools. But for anyone who is interested in the education of the early adolescent, I don't know how much of this ever got into the reports, but at least in Denver that happened.

Question to Ralph Tyler: What can you say to help us with the increasing demand for evaluation of minimum competencies on the part of both teachers and students?

Ralph Tyler: I believe the notion of minimum competencies is maybe appropriate for certification for some purposes, but it has little usefulness for education. It tends to focus upon the limits, rather than focusing on how much you can learn. The efforts of the school should be to continually help students to move beyond, never to settle for any minimum competency.

Contributions of the Eight-Year Study

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It is now nearly half a century since the Commission on the Relation of School and College of the Progressive Education Association set into motion the celebrated Eight-Year Study. Yet to read the reports, published in 1942, is to want to try to do *something*, if not similar, at least in the same spirit. In fact, it's altogether tempting to look upon the eight years of the Study, which was initiated in 1932, as the golden age of curriculum research. But however understandable such nostalgia may be, it does not help us in understanding the importance of the study and its implications for curriculum development today. The Eight-Year Study, in which Ralph Tyler and his associates use scientific principles to assess the outcomes of progressive methods, stands in sharp contrast to more recent implementation of curriculum proposals with little evaluation occurring. The problem with which the Study is concerned—the development of a curriculum and instructional program designed to be serviceable to youth—is still with us, and is, in fact, one of the persistent problems of education. There is much to be learned about addressing the persistent and pressing problems of secondary education from reading the reports of the experiment.

For Ralph Tyler, the Eight-Year Study is a benchmark in educational change—one of a number of benchmarks which point to the endless possibilities for school reform. A measure of the significance of the Study for today lies in the setting. The Eight-Year Study took place as part of the challenge to make schooling more helpful to Depression youth. Large numbers of youth who were unable to find jobs had enrolled in the high school. Today, as in the 1930s, we continue to move toward universal schooling. But in the 1980s, every student of every economic and academic background is expected to finish high school. Providing truly universal education remains a major educational problem.

In the 1930s personal involvement in this basic educational problem was particularly significant for Ralph Tyler, who writes in a recollection of his own experiences with education: "Perhaps the greatest satisfactions I recalled were those during the Eight-Year Study when our staff worked closely with teachers in developing new curricula and new evaluation devices appropriate for the cataclysmic changes in society during the Great Depression."

The Eight-Year Study has had continuing effects on education in the United States. There are six that I believe to be especially significant.

1. The results of the study undoubtedly accelerated the movement of the high schools away from the heavy domination of college entrance requirements.

2. There was widespread acceptance of the idea that schools could develop educational programs that would interest the students, meet their needs, and at the same time provide them with needed preparation for success in college.

3. Widespread acceptance of the concept of educational evaluation as a means for appraising attainment of the several major objectives of an educational program. (This, as opposed to the earlier narrower concept of testing in assessing student progress.)

4. A fourth contribution is the in-service workshop which was developed during the experiment to give time and assistance to teachers in developing instructional programs and materials and in gaining new knowledge and skills for their work. The workshop quickly became recognized as an effective instrument for the in-service education of professionals.

5. Recognition (though less widespread) that behaviors significant to the development of children—attitudes and values—can be tested, despite the difficulty of measuring them (attitudes toward major social issues, race, democratic procedures, concern for human welfare). There is a need to build on this contribution of the Eight-Year Study.

6. Finally, it became immediately apparent as the study was launched that it was a mistake to apply to progressive programs standardized tests that were based on traditional subject matter. Another contribution of the study is the conception that evaluation should not depend on the present availability of instruments—but may involve the development of new instruments appropriate to the purposes of the schools. Unfortunately, however, we still make short-sighted adaptations and compromises, rather than drawing upon and building on this conceptualization.

The influence of the study would have, undoubtedly, been far greater had the findings not been reported in 1942 when war news pushed education news out of the picture.

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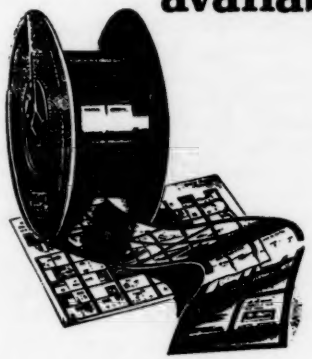

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Ralph Tyler's Impact on Evaluation Theory and Practice

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Before beginning my paper, I want to say a few words about Ralph Tyler. I came to the University of Chicago in the 1938–1939 academic year. Chicago was the most exciting place in education that year. Tyler had just moved the Progressive Education Association's Eight-Year Study to Chicago, and there must have been about thirty people on that project. Shortly after, Tyler started a college study which involved twenty colleges trying to find ways of improving their general education programs. In the meantime, Tyler was running the Examiner's Office, which involved another staff, and finally Tyler was Chairman of the Department of Education. Much of the excitement at Chicago was in relation to his attempt to introduce a completely new paradigm in education—a paradigm that would relate curriculum, instruction, and evaluation. One had also a sense of much opposition to these ideas from other educators. I remember when the first volume of the Eight-Year Study came out, one reviewer, from the East Coast, referred to Tyler as the Pied Piper. Those of us working with Tyler at that time felt that we must be the rats.

Tyler, at that time, was something of a guru. We have been interviewing outstanding concert pianists for a project and found that most concert pianists finish their studies with one of the great master teachers. One pianist that we interviewed had studied with an outstanding teacher at the Curtis Institute. She said of him, "Whenever I listened to him, it was like the voice of God." This was the guru that one prepared for over several months, in this case a piano piece. The master teacher was to hear it and find all the flaws that needed further work. Tyler also was something of a guru in the sense that you went and you listened to what he said, and even if you didn't understand, your problem was to find the deeper meaning.

In relation to this, I have observed that my students typically call me Professor, Doctor, or Mister. All of a sudden, on the day of graduation as I greet them, they call me Ben for the first time. I used to get somewhat furious about it, until I understood that there was a pact among my graduate students

that you don't treat him in a familiar way until you receive the Ph.D. degree. It took me fifteen years before I could call Dr. Tyler "Ralph," so that's why I protest my students not waiting a bit longer.

I would add one other note before I begin my presentation on Tyler's work. I was a boy from a small Pennsylvania coal mining town, and when I came to Chicago I had not developed adequate self-confidence. Helping me to develop this self-confidence is something Tyler did for me over a number of years. He did this in many different ways, but one that I remember well was that he persuaded the Carnegie Foundation to give me a grant of $25,000. I don't suppose that $25,000 sounds like very much at the moment, but in those days this was a huge amount. Under Tyler's persuasion, the Carnegie Foundation gave me the money and said, in effect, "Write us a couple of post cards as you use this." You were given the money, and you were supposed to spend it wisely, but they weren't going to tell you what wisely meant. I find that I am not able to do as well by my students.

Let me come back, then, to Tyler's impact on evaluation theory and practice. My interest in testing began with a graduate psychology course in tests and measurements at Pennsylvania State University where we studied the various types of standardized tests. While I found the intelligence and aptitude tests very interesting, and the personality tests were fascinating, the standardized achievement tests were a great disappointment. Almost all of them included only one type of question: multiple choice questions to measure the student's recall of specific information. I spoke about this to the professor, who then arranged for my graduate assistantship to be devoted for several months to rearranging several file drawers full of the standardized tests of that time. He urged me to do this slowly, to spend time on each of the tests, inspect the questions, answer a sample of them, and read the test manual very carefully. I was disgusted with this job and asked to be relieved of it several times. He insisted on my completing it. My disgust arose from the highly predictable quality of all these tests. Without exception, the standardized achievement tests sampled only the student's recall on the informational content of each of the school subjects. I decided that if this is what teaching and education are about, I wanted no more of it.

Several years later I met Ralph, who was a consultant to a project I was working on in Washington, the Appraisal of the Educational Effects of the Civilian Conservation Corps (CCC) Camps. We had tried to construct tests to measure the increased information that students developed in several areas in relation to the camp experience. Tyler introduced us to the notion of educational objectives, and the importance of changes in interests, attitudes, and problem solving, as well as information. The few hours Tyler spent with this staff were very memorable to me. Then and there I decided to start a Ph.D. program under Ralph Tyler. At that time he was at Ohio State, and so I

applied to Ohio State. Shortly after I found that he was moving to the University of Chicago, and I quickly sent my application to that university. However, I thought the University of Chicago was the City College of the City of Chicago. I didn't realize the nature of the institution, but I was going to go wherever Tyler was.

Later I read Tyler's papers on constructing achievement tests, published by the Bureau of Educational Research of Ohio State University in 1934. There Tyler pointed out that the main emphasis in educational measurement at that time was to translate the subject matter content into short answer or recognition questions, to validate the tests against the teachers' ratings of the students, to revise the tests until they reached acceptable levels of reliability, and to spend much time and resources on the securing of norms against which each student's scores could be interpreted. Tyler rejected this approach in his papers, and emphasized the importance of determining the objectives of instruction and of validating the tests against the definitions of these objectives. Reliability and objectivity were also important, but were the technical problems to be solved after one had found a way of sampling the behavior and responses directly related to the objectives of instruction. Thus instead of sampling only the information included in the topical outline of the course, Tyler emphasized, in addition to information, such objectives as the student's reasoning with new problems, his skill in locatinng and interpreting relevant data, various skills characteristic of the academic subjects such as laboratory and language skills and the student's ability to report experiments or observations, as well as the interests and attitudes developed with regard to the subject.

Why all this concern with educational objectives, as contrasted with the informational content of the course? Tyler, in later papers, made it clear that education is the process of changing the student's behavior, and for Tyler these behaviors were the ways in which students think, the ways in which they feel, and the ways in which they act. The educational objectives are the intended changes in the students, as conceived by the instructor, the staff of a particular course, or the creators of a particular curriculum. While there may also be many unintended changes, Tyler believed that the intended changes should be given priority in the evaluation process. The evaluation process should be designed to yield evidence on the objectives that had been achieved, as well as those which had not been achieved to a satisfactory degree. Ideally, the instructor or curriculum maker would revise the learning experiences provided the students until there was a satisfactory fit between the educational objectives and the evaluation results.

The existing measurement approach was largely designed to classify the students with regard to intelligence or aptitude or achievement. As such, measurement could contribute little to the improvement of teaching or

learning. Tyler was interested in the close relation between teaching and learning, and ways in which both could be helped or improved by the evaluation process. A total score on an achievement test would be of little value to a teacher or curriculum maker. Scores on tests showing the results on particular objectives, particular content topics, evidence on the errors made by students, evidence on the process of thinking and problem solving they used, and evidence on the affective changes in interests, attitudes, and values *could* be used as a basis for modifying the course and modifying the learning experiences of students.

Thus, one of the major problems of evaluation was to find ways of collecting, summarizing, and using the evidence as one basis for continually improving the instruction, the instructional material, and the curriculum. Although Tyler's early papers emphasized the improvement of the final examination at Ohio State, his later work on the Eight-Year Study and in the University of Chicago Examiner's Office emphasized a much greater variety of evaluation procedures. Examinations, questionnaires, interviews, observational evidence, check lists, rating scales, anecdotal records, pre- and post-tests, and various other types of evidence and records became useful in noting the changes in students as a result of a particular set of learning experiences. No single evaluation procedure could adequately sample the different changes in students specified by the objectives and content of instruction, and in turn, no single teaching method or set of instructional material could adequately serve all the different objectives of instruction. Lectures, demonstrations, discussions, laboratory and field experiences, discovery methods, projects, and so on all have a place in the teaching-learning process, as they are found necessary to help students change in the ways specified by the objectives.

My own education relative to educational evaluation was largely formed in the Examiner's Office at the University of Chicago. As an assistant to Tyler, and then as the College Examiner, I became aware of the profound influence of Tyler's ideas about evaluation. Before Tyler became the University Examiner, the system of comprehensive examination in the college at the University of Chicago was the sole basis for the marking of students. We never took attendance records in the classroom, since students' completion of the requirements for graduation were determined only by their achievement on the comprehensive examinations, which they could take whenever they thought they were adequately prepared. The Examiners under Professor Thurstone were highly competent psychologists who were experts in constructing objective test items and turning essay responses into highly objective ratings. For the most part, as they worked with the instructional staff, they devised excellent tests of the informational content of courses. These tests set new standards in terms of objectivity and reliability;

for example, the reliability of almost every test they developed was somewhere around .96. With a six-hour comprehensive examination on a single objective, it was hard not to get highly reliable tests. These tests were highly valid as samples of the subject matter content to which the students had been exposed. The Examiners in this group created many new forms of objective test items and they also developed new statistical and psychometric procedures for improving tests.

Tyler, with his emphasis on the educational process and on the objectives of instruction, selected an entirely new group of Examiners who were thoroughly trained in the subject matter of the courses and who were sensitive to the instructional procedures used in these courses. These examiners were usually outstanding teachers in the college who were given training in the process of evaluation by Ralph Tyler. This shifting from a group of psychologists to a group of college teachers was almost the first major change made by Tyler in the Examiner's Office. The new Examiners worked closely with the staff of each course to determine both the content of the course and the objectives of instruction. The clarification and definition of the educational objectives became a lengthy task, taking many, many months. The Examiners would create or devise new evaluation procedures for the different objectives, and the staff would reject most of them. This process of interaction and trying new forms continued until the instructional staff found good content validity between the objectives they wished to develop and the evaluation techniques. Sometimes, the process would take a year or more before there was a good fit between the objectives of a course and the evaluation procedures.

The evaluation process under Tyler changed to include a better sample of the kinds of learning emphasized by the objectives. Many of the questions were in the form of open book examinations where students could make use of their notes and books during the examinations. As an aside, I remember the procedures for test administration obtained from the previous Examiners. These focused on how to seat students so they would not be able to copy. There was a clear plan for insuring that each examinee was seated about four feet away from any other student. Sometimes, the examination proctors were instructed to examine the students' shirt cuffs to be sure there weren't any special notes they were bringing to the exam.

When we shifted part of the examination to the higher mental processes and open book examinations, I would watch students bring twenty-five to thirty pounds of books and notes and never once refer to them during the entire examination. I guess the books provided the warm blankets that the student could bring to the examination in case they might be needed. Some of the questions were based on laboratory material or on new materials in literature, music, art, science, or social science. Such materials were avail-

able to the students either just before the examination or during the examination.

These evaluation procedures worked out by the new Examiners served to give operational definitions to the objectives. The verbal definitions of the objectives were used as the basis for creating new kinds of examination tasks or problems. This process also helped the staff relate their teaching methods to both the educational objectives and their evaluation techniques.

At the end of each examination period, the instructional staff received a very detailed report on the examination results in terms of items and in terms of part scores, by content as well as objectives. These results were studied closely by each of the examiners and their teaching staff to determine the strengths and weaknesses of the instruction and as a basis for the further improvement of the course.

Initially, the courses were large lecture classes (200–400 students) meeting two or three times a week, with a smaller discussion and review session meeting once each week. When the examiners and the instructional staff began to introduce problem-solving skills and other higher mental process objectives, repeated analyses showed that the lectures and demonstrations which had worked out so beautifully for the large classes were not effective in helping develop the intellectual skills and abilities that they were emphasizing in their own objectives.

The staff then began to experiment with methods of teaching by discussion in order to implement some of their problem-solving objectives. In a short while the faculty recommended that these large lecture classes be abandoned and that most discussion classes be assigned twenty-eight or fewer students. As they became clearer about their objectives, the material they used for instruction shifted from textbooks and secondary sources to original writings and to direct experiences with art, music, science, social science, and other phenomena.

Thus over a period of several years the objectives changed, the evaluation procedures changed, and the teaching methods and instructional material changed until there was a close relation between the evaluation process and the educational process. Through questionnaire studies and informal talks with faculty and students, the examining staff became aware of the ways in which the kinds of examinations used influenced the kind of preparation that students made. Released copies of old examinations, syllabi, and the grapevine helped students orient to the objectives and content of the course. As students learned about the kinds of problems and tasks to be expected on the examinations, they organized their study and preparation with these problems in mind. Unless the examinations were closely interrelated with the objectives, the instructional methods, and the materials of the course, examining and instruction worked in opposition to each other. Thus when

the examination consisted only of knowledge or information questions, while the instructors emphasized problem-solving, students tended to memorize and cram information and ignore the instruction because they were going to be judged on the comprehensive examination and they knew how to prepare for such tests no matter what wonderful objectives the instructor was talking about or trying to teach.

Incidentally, when I went to India, I found that Indian teachers who had come to the United States and had learned new methods of teaching began to teach problem-solving methods. The Indian students, however, knew what the external examinations were going to require and they would beat their feet on the wooden floor until the instructor shifted his method of teaching back to what was necessary to pass the examination. Our students at Chicago were much more polite—they would not come to class if the teaching and the examinations were at cross purposes.

We found, on the other hand, that when the instruction and the comprehensive examinations emphasized the higher mental processes, the students prepared for the examination by attempting to apply the methods and principles of the course to new situations and problems. To take an illustration, in the previous examinations, the students in the humanities course had studied Hamlet and they all knew particular Hamlet soliloquies, the exact order of details, and so on. But in the new humanities course and examination they were going to be asked to apply the methods and principles of analysis of the dramatic work (e.g. Hamlet) to a new dramatic work. We would find the students preparing for this new type of examination by taking a new play and trying to apply the principles of literary analysis used in Hamlet to these new plays. In preparing for the comprehensive examination, they were actually learning how to apply these ideas.

Examinations thus represent a kind of two-edged sword, in that negative changes—reduction in the quality of learning—as well as positive changes—improvement in the quality of learning—can be produced by the relation between the evaluation procedures and the instructional process. If the evaluation procedures and the instructional process are out of phase, the examinations can do great harm.

Tyler's view of education as a process of changing the students' behavior also led us to search for the extent to which some of the entering students had already achieved some of these objectives before they started the program. We found it possible, under Tyler's guidance, to construct placement tests to determine the initial competence of students, even though they had acquired this competence through quite different educational experiences. Students who had already acquired the equivalent of the competence developed in a particular course were excused from this requirement for graduation. For students who had acquired some of the competence, but not all of it, the

faculty devised special instructional procedures; instead of it being a year-long course, it might be a three-month course designed to help complete learning of the major ideas and processes included in the course. The test also identified students likely to have special difficulties in particular subjects, and this led the faculty to develop special ways to help such students. The placement tests were also used as pre-tests to study particular kinds of changes in students over a number of years. These placement tests were models for the later development of GED tests for establishing the equivalence of high school graduation for veterans of World War II. They, as well as other procedures for granting academic credit for alternative learning experiences, are still used.

Have these ideas of Ralph Tyler's had any impact on evaluation theory and practice? I was interested in looking at the current annual meeting program for AERA to note that there are sixty sessions devoted to evaluation. It has become a very large industry, even though many of us would have liked it if the industry had not become such a large one, and had stayed somewhat closer to some of the ideas that we were working on. Perhaps Tyler's major innovation of educational evaluation was the development of ways in which the evaluation process could be integrally related to the educational purposes of the classroom and the educational system. Much progress in this work has been documented in the many books on educational evaluation, taxonomies of educational objectives, and curriculum evaluation. While there are many different views about how the objectives should be defined, and who has the responsibility for determining them, as well as the precise procedures for evaluating each objective, there is now *much consensus* throughout the world on the importance of relating educational evaluation to educational purpose. It is now common practice for major educational testing organizations, including the national examining bodies in many countries, to start the construction of a new achievement test or external examination with a detailed set of specifications of the content and objectives to be tested and to check the validity of the test procedures against this detailed set of specifications. Similarly, each major evaluation project at all levels of education starts with the specifications to be met in terms of content and objectives, and then develops instruments, sampling procedures, research designs, and even the form of data analysis in terms of these specifications. The point is that the links between educational purposes and much of educational research, curriculum development, and some educational practice, are so well accepted that most major efforts in these fields start with the delineation of educational purposes and relate the evaluation methods and the evaluation results to these purposes.

However, the linkages between educational purposes and classroom instruction are not as clear as the linkages between the educational purposes

and evaluation. My own experiences at the University of Chicago Examiner's Office had convinced me at that time that if dedicated teachers could be helped to state their objectives clearly, this could contribute to both the creation of valid evaluation instruments for the objectives, and to the development of instructional procedures more appropriate to these objectives. While it took over five years to accomplish this at the University of Chicago, there were some remarkable interrelations among all three—objectives, evaluation, and instruction. And, the students did make considerable progress toward the achievement of these objectives as shown by the evaluation results.

In the United States, I find that teachers have become very skillful in stating their objectives, but I rarely find that these objectives have much influence on their own testing procedures or on their instructional methods. *The Taxonomy of Educational Objectives* was published in 1956. After more than twenty-five years of use of the *Taxonomy*, I find that examinations and quizzes made by teachers include over 90 percent of questions which involve only knowledge or information, largely rote. I observe classrooms, and occasionally find a very unusual teacher. But, for the most part I find in my classroom observations that it is the teacher who is talking most of the time and emphasizing what the students are to remember. I don't know where to put the blame for this sorry state, whether to place it on the testing course or on the curriculum and methods courses that they have taken in schools of education. I have seen some little evidence of progress as the result of special inservice programs designed to help teachers relate their instructional and testing procedures to their objectives. Perhaps the major flaw is that the stating of objectives by the teachers has become a ritual with little in the way of consequences for teaching and testing. I would hope that much could be done to improve this situation. It is rumored that hell is paved over with good intentions, and, I would add, good educational objectives.

National curriculum centers have been created in about forty nations of the world. Ralph Tyler, John Goodlad, and I, with a number of colleagues from various countries, conducted the seminars for the key leaders in these curriculum centers, usually six to ten people from each of these nations. As a result, most of these centers now make use of Tyler's curriculum rationale, but perhaps even more important, the curriculum centers have developed evaluation procedures to be used at each stage of the curriculum development process. Dr. Arieh Levi produced the book in which some of the evaluators in these curriculum centers describe the way in which evaluation is used at each stage of the curriculum development process.

In many ways I find that the curriculum development, the evaluation methods, and the inservice training of teachers for the new instructional procedures to be used are far more advanced in a number of these countries

than they are in the United States. Perhaps the underlying reason is that much of curriculum development in the United States is done either by textbook publishers or by short-term curriculum projects. The curriculum centers abroad tend to be national centers with a long-term commitment to the improvement of education. Thus, for example, in the United States if a new physics course doesn't work well, everybody walks away from it. Abroad, the curriculum center must find ways of improving the curriculum until it works well. They cannot walk away from it, because typically these countries have only a single curriculum with some variation. If the new mathematics curriculum is a disaster, the curriculum center must do something to repair it until it works well in the classroom. It may be that I wear rose-colored glasses when I go abroad, but I do find a stronger professional commitment to education and its improvement in many of these countries than at home, where bureaucracy at present seems much stronger than professionalism in education.

The International Study of Educational Achievement, IEA, is an organization of about fifty national research centers engaged in a cooperative approach to international research on educational problems. Over the past twenty-five years, about 100 books and over 200 papers summarized the results of these studies both nationally and internationally. There have been studies in science, math, reading, literature, second languages, social studies, and so on. These studies, which involved achievement tests and questionnaires on interests, attitudes, and values, have made use of Tyler's approach to content and objectives as the basis for the construction and validation of international evaluation instruments. When we develop a mathematics test to be used at a particular level throughout the world, there are many problems of being sure that this is a fair test for Country A and Country B and Country C. The dramatic differences between countries make it clear that nations are at different levels in their teaching and learning for many of the important objectives of education. Many of the countries are learning a great deal from the results reported so far, and they are using this evidence as one basis for improving the curriculum and the instruction as well as their own evaluation procedures.

The National Assessment of Educational Progress is a periodic assessment of the changes in national levels of student competence in selected subject areas. This national program, begun under Tyler's leadership, evaluates students' cognitive and affective development as related to the objectives of education formulated by a number of panels of educators as well as citizens. The striking evaluation characteristic of this program is that samples of students respond to different samples of test items in order to secure responses to a very large number of questions for each subject area. This yields a more valid picture of the educational progress at the regional and

national level than can be secured from the results of the usual standardized achievement tests. A number of states have built variants on the national assessment in order to relate the results to a particular classroom, particular schools, and particular school districts. Well used, these state assessment procedures can do much to improve instruction and learning, since the states and local schools have both the responsibility and the means for relating the evaluation to the instruction, while this cannot be done at the regional or national level.

The development of formative evaluation procedures has been much emphasized in the past decade and a half. Such formative evaluation as an integral part of the curriculum development can contribute to the improvement of curriculum during the process of constructing it. That is, flaws in particular parts of the curriculum can be discovered early, and corrected before the entire curriculum has been completed. This is a very sound procedure and it has become an essential part of the curriculum development process in many of the national curriculum centers. Our own work on mastery learning has also been based on the use of formative evaluation during the instructional process. When such formative evaluation is accompanied by an appropriate feedback and corrective process, a very large proportion of students can be brought to mastery of each learning task. This feedback corrective process has very positive effects on the student's cognitive achievement over the course, and it also has positive effects on the student's interests and attitudes, as well as academic self-concept. All of this is to point once again to the intricate relation between educational purposes, instruction and learning, and evaluation. I believe that the largest gains to education will come fom innovative approaches to these relationships. The work that Tyler began in the early 30s is far from completed.

Tyler's Contribution to Measurement and Evaluation

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In beginning, I would note that you do not need this program to have a monument to Ralph Tyler: the evidence of his contribution is all around you. Goodlad, Bloom, Havinghurst, and Krathwohl are all making major presentations at this conference; these are people who were directly in Tyler's orbit and whose thinking Tyler influenced. Beyond the people who studied directly under Tyler are those who entered evaluation through one of Tyler's students. On the program for the American Educational Research Association this year are ten people who came into the field of evaluation through my course, and if you add the ones who were trained by Ben Bloom, Tom Hastings, Louis Raths, and others, you get a great number. I think that if you went into any room in this building at this hour you would find somebody who is working with ideas that have descended from Tyler through two generations. The leaders in the measurement profession have been much influenced by him.

This point is important because, while Ralph has made notable intellectual contributions, perhaps his main contribution has been in his development of people. He has been devoted to people; indeed his whole approach to evaluation was as a means of developing people. He had a particular soft spot for the development of social and behavioral scientists, and his institution-building for them has to rank alongside the intellectual contributions that we in theory are concentrating on. We must keep those intellectual contributions in perspective with the personal work that he does—not just with the academic community, but with the school boards and parent groups with which he sits down. He is very much a person who has made his contributions face to face, his several hundred publications notwithstanding.

My remarks rely to a considerable extent on a history of the evaluation movement put together by James Echols[1] in a Stanford dissertation. While focusing especially on the Eight-Year Study, Echols came to an interesting conclusion, which I share: virtually all of Tyler's ideas on evaluation were present in his writings of 1931. That is, the concepts which have made the difference in our thinking for the last fifty years were to a remarkable degree

clear in Tyler's mind at that early date. The ideas are there to be seen, although the writings were so brief, so deceptively lucid, so entirely persuasive, that people didn't realize the depth of his concepts. Tyler previsioned much later thought. If you look closely, for example, you can see in his paper on educational diagnosis the whole rationale of criterion-referenced measurement; elsewhere you can find reference to the aptitude-treatment-interaction theme. Tyler's very earliest writings are so rich they give one more than enough to talk about, and I do not see any fundamental change in his view of evaluation over the next fifty years.

An interesting incidental note in the Echols tale, derived from an interview, relates to Tyler's entry into evaluation. Ralph had been asked to come to Ohio State by W. W. Charters, and he hoped to work in the field of curriculum. Charters, as head of the department, got stuck without a faculty member in measurement when the person holding that position resigned. Charters asked Tyler if he would take over the responsibility for measurement, working within the Bureau of Educational Research. Tyler was deeply disappointed and saddened to take on this role (where he was to make such major contributions) because, as he told Charters, he "always thought of himself as a curriculum person." Charters replied that Edgar Dale was a good-enough curriculum person, and he needed a measurement person. Tyler was that measurement person as long as he was at Ohio State. He took on this role in 1929, and it was in 1931 that the groundbreaking original publications in the evaluation area began to appear.

Tyler's ideas on measurement and evaluation all flow out of a straightforward logic, and I am impressed with what I see as the extension of Dewey in his life. Tyler's career starts from a firm commitment to democracy—to the wisdom of the people, but most especially to the wisdom of teachers. He has a very strong sense, one I have seen in my every interaction with him, that the people will reason rightly if matters are explained to them clearly. A Jeffersonian insistence on the importance of education in a democracy is his basic theme. Leadership is, of course, needed. Tyler's notion is not just one of trusting people; it is not just populism. Tyler sees the need for an educated elite to work with the people and to help them. Thus we find that much of Tyler's work is essentially a missionary effort, an effort to bring forward the best thinking to sharpen the questions that the people are asking themselves.

Tyler's work expresses a committed pragmatism—advance comes through experiment, through trying new things and looking at the results. Following Dewey's steps in thinking you come down to precisely the same emphasis on evaluation that you find in Tyler: you do things in order to see what works. As a teacher you are trying things in the classroom and you do your job until you come around to the question, "How well did it work?" which is the turning point in a cycle of continued experimentation. Tyler's

concept of evaluation was never one of measurement for its own sake. We measure because we are participants in an evolutionary process, the continuity of which helps knowledge evolve. In Tyler's case, the emphasis was not the evolution of knowledge in some general philosophy-of-science sense, but the evolution of knowledge in the hands of the individual who year after year is working with students.

I perceive in Tyler a considerable disbelief in the idea that we are going to come down to established conclusions, that our research methods are going to define the best way of doing this or that bit of teaching. There is certainly in Tyler a strong disbelief in a centralized curriculum, because he believes that a curriculum problem is a local problem to be solved on the basis of teacher judgment and creativity, plus disciplining "evaluation." Ralph has scolded me for talking about aptitude-treatment-interaction because "treatment" is inappropriate with human beings. Spreading manure on a field is a treatment; the field is passive. In education, all you can do is go out and help the teachers think for themselves; *they* are going to work out the treatment with their class.

One quotation from John Dewey seems to express precisely what Tyler was amplifying. I don't wish to leave the impression that Tyler was merely saying what Dewey said; Tyler took up the cause where Dewey dropped it. Dewey left education for philosophy, and though he said some things that were fairly clear as a guide for the elementary school, in secondary and higher education he had said little or nothing at all. Dewey had begun to move away from an experience curriculum as such, to bring the curriculum closer to the structured disciplines of knowledge; but there was no Deweyian approach to secondary or higher education. As I see it, Ralph more than any other individual provided the extension of pragmatism into the higher reaches of education. Dewey wrote in 1922 that the

> sense of [educators' plans] being scientifically up-to-date does endless harm. It retards the creation of a new type of education because it obscures the one thing deeply needful: a new personal attitude in which a teacher shall be an inventive pioneer in the use of what is known, and shall learn in the process of experience to formulate and deal with those problems which a premature "science" of education now tries to state and solve in advance of experience.[2]

Tyler invented formative evaluation as a means whereby one could continually renew the educator's experience. He saw and used measurement as an active intervention, as an exercise in power which when carried out in collaboration with teachers could be a means of redistributing power.

There is a certain ambivalence among Tyler followers, arising from two pieces of advice that were hard to harmonize. He argued on the one hand that

a test has to be valid for the curriculum; there is no point in testing with it if its content isn't what the curriculum has covered. He argued on the other hand that the curriculum is only a vehicle. Certain things are to be learned that society believes are necessary; if the curriculum doesn't cover them, the curriculum is at fault and evaluation should expose that. You can see the tension between these two ideas. Insofar as there is a resolution of the issues it is in Tyler's rejection of the doctrine that "you need only to look at the lessons; if you map out what their content is, then you have the blueprint for your test." It was the shift from lessons to objectives that permitted Tyler to reach outside the history of specific content (what has the student been engaged with?) and move to the idea that the lesson is only the vehicle. You can reach an objective through a great variety of lessons, and the only way that you can test whether a person has attained the objective is to present a test task from outside the lesson. That is, the function of instruction is to develop a person's adaptive powers to go beyond the material in the lesson.

Tyler introduced what some of my friends call the trans-curriculum objectives—the objectives that the school as a whole or the community as a whole should be concerned with. One example of such an objective is "that the person would develop a consistent philosophy of life." This type of objective is something you could never perceive in an old-fashioned outline of subject-matter content, yet something that arguably is central in secondary and higher education. Tyler emphasized that all instruction has multiple objectives and that evaluation is to be comprehensive. He particularly directed attention to the higher mental processes; this in some ways was extraordinarily unfashionable in the days when Thorndikian S-R psychology was dominant. He did this in part by showing that you could come through a zoology course and be very good at naming the parts of animals, but not at all good at making critical sense of an experiment. He showed that some of these higher outcomes, if achieved in the first place, were better retained than the outcomes of a lesson.

Tyler carried these views on trans-curricular objectives into what came to be called general educational development. You will remember that he developed the tests that people can still take to show that one has achieved the equivalent of a high-school education. A person's general educational development can be adequate in spite of his not having spent the normal number of years in school. This test played an important part in the wartime period in enabling persons who had not graduated from high school to demonstrate competence to go directly to college, and it is still significant. The other most prominent place, oddly enough, where we see Tyler's style of measurement today is the law school aptitude test. That test has to challenge the applicant to show excellence in the kind of reasoning law requires, and yet must not penalize those who decided to move into law after

taking undergraduate degrees in psychology or French and those who have been out of school for twenty years. The law school aptitude test is a direct measure of general educational development, of trans-curricular thinking.

Tyler's messages were distorted over the decades that have followed his 1931 writings. I think all the Tyler disciples are a bit to blame. The behavioral-objectives notion was simply "you've got to observe—you can't make conclusions out of sheer impressions and pre-conceptions." We allowed that idea to be incarnated in long lists of micro-objectives—incarnated and butchered! We muted the emphasis on trans-curricular and indirect objectives, so that many educators and policy makers accept evaluation limited to the content of the student's lessons, as if that suffices. We see the ascendency of models like direct instruction and mastery learning which lose sight of the permanence (or impermanence) of outcomes and concentrate on just this week's lesson. The goal-based evaluation of which you have heard so much purports to represent Tyler, but, as Scriven has said, goal-based evaluation is massively biased towards the management point of view. We have not been articulate enough about that.

Another key point was lost along the way: Different curricula produce different profiles of outcomes. Evaluators keep coming back to the false question, "Which method at which school is doing the best job?" I'm afraid that this failure started in the Eight-Year Study, whose schools were doing quite different things. We had a remarkable variety of tests, and yet there was never a report saying that "this school, with this program, got this profile of outcomes." Why? Because of the political situation of the time, and the implications such public comparison would have had for the schools. It would have been counter-productive for the curriculum development and the teaching efforts if the Evaluation Staff had drawn conclusions about how, and in which areas, thirty different curricula were effective and ineffective. The schools received detailed information for local use, but the educational research community was unable to capitalize on it.

Let me summarize simply by noting that in Ralph Tyler's work we gained a program for secondary education in which measurement and evaluation were chiefly a vehicle for teacher training. Evaluation was a vehicle for missionary activity to encourage teachers to think about how they might do their job differently, to think about why they were teaching what they were teaching. That was more the product of Ralph Tyler's work than anything that came out of the measures themselves. This style of inquiry enabled Tyler's students to give direct service to front-line educators. It was the most powerful piece of training Tyler's students had, and it was a denial of cloistered academic research. Research was not to be above politics, not to be defined in pure answers, but to be a means of assisting democratic judgment. It meant getting into the political arena, and understanding its tensions and its problems.

Notes

[1] J. P. Echols, *The Rise of the Evaluation Movement: 1910–1942*, Unpublished Doctoral Dissertation, Stanford University, 1973.

[2] John Dewey, "Education as Engineering," *New Republic*, 32, 1922, pp. 89–91.

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Ralph W. Tyler in Retrospect: Contributions to the Curriculum Field

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Introduction

Ralph W. Tyler has been known to me over many years. As a doctoral student at Stanford University, I first met Ralph in a hotel lobby at an AASA convention. I was impressed with his mind and his manner. Soft spoken, the logic and organization of his remarks were truly impressive.

I was fortunate in being principal of the University of Wisconsin High School, one of the 30 schools, during the last year of the Eight-Year Study. This gave me some brief contact with the curriculum and evaluation staff members of the Study including Ralph Tyler.

In the intervening years, since the Eight-Year Study, my personal association with Ralph has not been close. As a student of the somewhat nebulous curriculum field, I have, of necessity and desire, followed his writings. This has been no simple task because Ralph has been a most prolific writer on curriculum and evaluation topics. He has spanned the whole range of elementary, secondary, and higher education as well as a variety of special projects both national and international. In the January 1981 issue of the *Phi Delta Kappan*, I have read recently his article entitled "The United States vs the World: A Comparison of Educational Performance."[1] In this statement, he skillfully blends the findings of studies of achievement in other countries and the results of the National Assessment Program.[2]

Through all of his writings, Ralph has maintained a clear focus on his early concepts of curriculum and evaluation. The consistency, throughout the years, with which he has clung to his early definitions and conceptualizations has been remarkable. This may be one factor in the impact he has had on American educators. He has repeatedly applied his concepts and ideas to a variety of problem areas and thus illustrated the relevance of his basic rationale. Ralph has shown again and again through his writings and major assignments the usefulness of his concepts for elementary, secondary, and higher education.

Plan of Presentation

This morning I want to deal specifically with Ralph's impact on the curriculum field and on the practice of curriculum development. I will attend particularly to his *Basic Principles of Curriculum and Instruction* published in 1949[3] and originally used as a syllabus for Education 360 at the University of Chicago. This is often referred to as the Tyler rationale.

In discussing Ralph's contribution to the curriculum field, I wish to focus on three topics: One, the general nature of curriculum development concerns prior to the appearance of Ralph's *Basic Principles of Curriculum and Instruction*; two, contributions of the Tyler curriculum rationale; and three, conflicting voices relative to the curriculum.

Some Curriculum Concerns Prior to 1950

In considering Ralph Tyler's contributions to the curriculum field, it seems appropriate to take at least a cursory view of where we had been and where we were in curriculum thinking when the Tyler rationale was published. Many of Tyler's predecessors helped to make his contribution possible. However, I in no way mean to imply a condition of cause and effect. By naming a few individuals I can indicate certain high points, and set the stage a bit for the appearance of Tyler's rationale. In the time available I can not convey the richness and the diversity of early thinking, nor the detail relating to early developments.

First, as Mary Louise Seguel has shown, the Herbartians,[4] working in this country, are often credited with the first systematic studies relating to the curriculum. As exemplified in writings of Charles and Frank McMurray, the Herbartians faced a profession which regarded the curriculum as the acts and generalizations of a textbook, and conceived of method as the ways of teaching these facts and generalizations. The McMurrays sought to direct attention to the process of selecting and ordering content in relation to the act of its assimilation by the child. This may have paved the way, in part, for attention to the experiences of learners. The Herbartians had other concerns as well, such as the economy of time and effort, and the aim of moral development.

Dewey had a major influence on the Herbartians, causing them to re-examine some of their approaches. But Dewey was the philosopher who has served over many years as the Guru for all who are seriously interested in education. Dewey maintained a philosophical rather than a technical point of view and this has presented problems for many who would follow him closely. Dewey, of course, ranged broadly over many curriculum problems. I'll have further comments about him later.

Second, Bobbitt is often discussed in the context of the efficiency movement in education and as the author of the first book focused on the

curriculum. Some had undoubtedly hoped that the attention of the Herbartians to the selection and organization of content would solve the problem of overcrowding in the curriculum, but this was not to be the case. Gradually attention shifted to efficiency in education.[5] From 1900 to 1910 this movement was developed and was clearly recognized. The attention to adult activities as a basis for selecting content is now well known.

Third, the measurement movement is very much a part of the efficiency movement. Edward L. Thorndike, and others, early in this century, developed means for measuring various aspects of education. "Thorndike suggested that only as outcomes were conceived in terms of specific, total behavior responses were they reliable indications of learning.—The rapidity with which this emphasis on behavioral outcomes and their accurate determination spread is a tribute to the real need the theory filled."[6]

Fourth, by the 1920s there were several dynamics in evidence. There was growing attention to the child and to the development of numerous independent schools. There was much trial of methods of curriculum-making as exemplified in the popularity of course-of-study development. These curriculum development efforts took quite different forms. However, the influence of previous leaders was much in evidence in individual situations—e.g., selection of objectives in terms of social needs, or research on problems of particular concern such as spelling, reading, or social studies. Teacher participation was present in many programs. There was also a wide awareness of the general social ferment as one force in curriculum development.

Fifth, Harold Rugg, through his leadership of the National Society for the Study of Education Twenty-Sixth Yearbook,[7] sought a philosophical synthesis of ideas relating to bases for selecting the curriculum: For example; the child, or society. New concepts of the curriculum were sought by the yearbook committee, but few could be found with which all participants agreed. There was concensus that the curriculum should be a "succession of experiences and enterprises having a maximum lifelikeness for the learner."[8] This definition was said to be inherent in the new emphasis on changed behavior as the true outcome of education.

Sixth, course-of-study development continued with varying refinements and emphases. Major state course-of-study development programs moved toward an added purpose, the actual improvement of instruction. Hollis Caswell was a leader in state course-of-study developments in the early thirties. The Virginia State Program was something of a culmination of these efforts.[9] Caswell suggested that adequate curriculum design should attend to content, social functions, and interests of the child. A focus on learners' experiences was also a central concern.

Seventh, the Eight-Year Study of the 1930s was a massive curriculum development project in thirty schools with an inherent and a final evaluation

process. Ralph Tyler was intimately involved in the whole project and reports on the Eight-Year Study moved substantially in the direction of the Tyler rationale.[10]

Contributions of the Tyler Curriculum Rationale

The statements just made relative to predecessors of Ralph Tyler were, of course, not in complete agreement. Only some of the characteristics of this early period, the first fifty years of study of the curriculum, have been cited. The curriculum field was in dire need of a rationale, or as Daniel and Laurel Tanner would say, a paradigm or a model.[11]

Ralph started from four questions which are now well known: What education purposes should the school seek to attain? What experiences can be provided that are likely to attain these purposes? How can these educational experiences be effectively organized? How can we determine whether these purposes are being attained?

In one slim volume of 128 pages,[12] Ralph suggested methods or procedures for studying these questions, recognizing that answers will vary somewhat from one level of education to another and from one school to another. He saw his analysis as a rationale by which to examine problems of curriculum and instruction. He presented it as one way of viewing the instructional program as a functioning instrument of education. He claimed it was not a manual for curriculum construction, in that it did not describe and outline in detail the steps to be taken by a given school or college. Yet, it did become a major guide to curriculum development. The rationale's usefulness is recognized in numerous curriculum bulletins prepared by school systems all over the country. However, in many of these instances, the kinds of further study which Ralph had suggested were not pursued.

Rather than discuss Tyler's views on each of the four questions, a variety of comments will be made to suggest my views of some of the contributions of Tyler's rationale as well as some hypothecated reasons for its impact.

First, Ralph Tyler's rationale had a timeliness that in part accounts for its acceptance. The World War was not far behind us. The curriculum field had lost some of its sparkle as well as the stimulation that comes from fresh ideas. There were still disagreements and confrontations among the proponents of various positions.

Second, Ralph's proposals for both curriculum and instruction gave a unity to these two closely related aspects of planning and executing plans. This appeared to strengthen and simplify his whole presentation.

Third, Ralph's rationale presented a unified statement on what he considered to be the basic considerations in planning a curricular and instructional program. In addition he appended a brief statement on how a school or college staff might work on such a program.

Apparently, this rationale in its original form was a course syllabus, as already noted, intended as a basis for analyzing other writings on the curriculum field.

Fourth, in addressing the task of developing objectives, Tyler believed that no single source of information is adequate, and then proceeded to indicate the kinds of information that could be obtained from studies of learners, studies of contemporary life outside the school, and suggestions about objectives from subject specialists. He was able to mediate among warring groups by accepting all three of these sources of objectives. He not only accepted them, he claimed the need to use them.

Fifth, Ralph sought objectives which called for changes in behavior. Educational objectives were defined as ends to be achieved from learning, and as changes in behavior. The difficulty of the task of identifying objectives was recognized, and much of his statement of rationale was devoted to explication of this and related problems.

Tyler indicated a need for selecting a small number of objectives so that sufficient, sustained attention might permit their realization. This is in contrast to current behaviorists who identify large numbers of specific objectives which supposedly can be taught through typical workbook approaches.[13]

Tyler elaborated two screens for testing objectives: philosophy and the psychology of learning. While these two are necessary, some have claimed that this left values afloat—subject to individual whims—and that sociology, anthropology, and other disciplines should be used as screens. Tyler clarified the selection and use of objectives by indicating that they needed both behavioral and contextual aspects so that instruction could be planned and evaluation efforts could have a proper focus.

Sixth, Ralph was very explicit in describing how learning experiences could be selected by pointing out the need for planning to the end that pupils will have maximum opportunity to have desired experiences.

Seventh, in treating the organization of experiences, Ralph skillfully presented major alternatives. These were well illustrated, and the need for more research to shed light on the impact of various proposals for organization was emphasized.

Eighth, evaluation is, of course, a Tyler strength and an area in which he had had much experience. Evaluation was presented in relation to the whole of the curricular and instructional tasks. Thus, multiple outcomes of evaluation were considered, such as measuring student progress and discovering possible reasons for the success or failure of the curriculum program. He also saw evaluation as a means of clarifying objectives.

Ninth, Ralph suggested flexibility in using his four-point rationale. He indicated that a faculty group need not start with objectives and move

through the selection and organization of experiences to evaluation. They might instead start with a particular interest or concern. However, attention to all four points of the rationale was to be ultimately necessary.

Tenth, in addition to Ralph's four-point planning process to guide a school or college faculty, he appended a brief section on how a staff group might work on curricular and instructional problems. This section appeared as almost an afterthought, but it was exceedingly insightful in suggesting a range of kinds of staff participation which have since proven to be very essential to curriculum and planning efforts. I think the Rand Studies have indicated this.[14]

Eleventh, mention should be made of Ralph's style of writing. It is lean, simple, logical, and profound. He has an ability to condense a vast amount of material, including numerous studies, into key ideas and then to illustrate each of his major points. He has clarified and effectively presented a rationale relative to curriculum and instructional planning.

Conflicting Voices

I have two final comments. Many are aware that there have been and are conflicting views in the curriculum field, and those views should be recognized. In this brief paper, I have not been able to give them proper attention.

First, I want to mention the different views relative to curriculum and instruction. Dewey identified the same sources of the curriculum as Tyler: roughly, the child, society, and the cultural heritage. Dewey, however, had very different views on objectives. Dewey dealt with this at many points in his writing, but in *Sources of a Science of Education* (1929) he stressed that the educative process is the means by which educational objectives can be identified, tested, and met. He said, "education is itself a process of discovering what values are worthwhile and are to be pursued as objectives."[15] As with many of Dewey's ideas, this one appears to be difficult to implement. Without expressing favor for Tyler's or Dewey's approach, the Tyler formulation seems more explicit in how to analyze a school situation and devise objectives. It's probably this clarity of approach that has led many practitioners to accept Tyler's position on the specification of objectives.

In addition to Dewey's opinions, of course, there have been a host of others. Some arise from humanist, existentialist, conceptualist, or other values. Some might even be labeled as the extreme behaviorist, minimum essentialists, or accountability advocates. Probably one of the most developed contrary views has stressed the fact that in the Tyler rationale "values have been left floating without a curriculum forum for grounding them," to quote Dwayne Huebner.[16] Value questions are thus posed as being in conflict with technology: "How are we as adults to live with and

respond to the young and those not yet educated? What intellectual, technical and social resources are to be given the young? How can educators bring together the world's wealth and the young so both are valued."[17] The conflicting voices in the curricular arena are becoming louder and clearer. Time will reveal their impact.

However, in this context it is interesting to note the results of a recent poll. I want to mention an article by Harold Shane in the January 1981 *Phi Delta Kappan*.[18] Shane sent a questionnaire to 135 members of the "Professors of Curriculum," both active and retired. This is a self-selected group that meets to discuss curriculum-related topics. The questionnaire listed 100 annotated publications which have consistently appeared in footnotes and bibliographies since 1906. Publications of members of the "Professors of Curriculum" were omitted from the questionnaire. Respondents were asked to indicate whether they believed a given book, article, or report had major, considerable, or negligible influence on curricular theory and practice. All but four of the 84 who returned questionnaires rated *Basic Principles of Curriculum and Instruction*, by Ralph W. Tyler, 1949, as of major or considerable influence. All but five rated John Dewey's *Democracy and Education*, 1916, as of major or considerable influence. While a poll is not an important means of measuring impact, this appears to me to be an interesting bit about the man we honor today.

Notes

[1] Ralph W. Tyler, "The United States vs. The World: A Comparison of Educational Performance," *Phi Delta Kappan*, January 1981.

[2] National Assessment of Educational Progress, NAEP, *Newsletter*, and Richard M. Wolfe, *Achievement in America*, New York: Teachers College, 1977.

[3] Ralph W. Tyler, *Basic Principles of Curriculum and Instruction*, Chicago: The University of Chicago Press, 1949.

[4] Mary Louise Seguel, *The Curriculum Field: Its Formative Years*, New York: Teachers College Press, 1966, pp. 7–46.

[5] *Ibid.*, p. 67f.

[6] *Ibid.*, p. 92.

[7] National Society for the Study of Education, Twenty Sixth Yearbook, Part II, *The Foundations and Technique of Curriculum Making*, Bloomington, Ill., Public School Publishing Co., 1926.

[8] *Ibid.*, p. 18.

[9] Sidney B. Hall, D. W. Peters, Helen Ruth Henderson, and Hollis L. Caswell, *Tentative Course of Study for Virginia Elementary Schools*, Richmond, Va: State Board of Education, 1933.

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Contributions of Ralph W. Tyler to the Curriculum Field

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In 1939 at the University of Chicago, Dr. Ralph W. Tyler was Chairman of the School of Education, and I was fortunate in being his scholarship assistant during my two years of study on campus for a Doctor of Philosophy degree in Social Sciences. Preceding years of teaching sciences and mathematics made me eager to learn how Dr. Tyler applied the scientific method of thinking to curriculum development and teaching. He was my teacher and my model.

In 1946, I was able to bring to the Occupation of Japan what I had learned from Dr. Tyler and from subsequent experience as curriculum consultant for the colleges and universities of the State of New York. In the role of Curriculum Specialist for the Supreme Command of Allied Powers under General MacArthur, I was responsible for the "strengthening of democratic tendencies among the Japanese people" (in accord with the Potsdam Proclamation), including "freedom of inquiry" (according to the Report of the United States Education Mission to Japan), and "equality of educational opportunity for all" (according to the Directive of the Far Eastern Commission). In short, I had a marvelous opportunity for using Tyler practices and principles in guiding the Japanese in the development of a curriculum that would allow Japan to become a leading nation of the world. This status they have now achieved for the first time in their history, a status well described by Harvard Professor Ezra F. Vogel in his 1979 Harvard University Press book entitled *Japan As Number One: Lessons for America.*[1]

The competent, problem-solving nation that Japan is today is evidence that the Tyler curriculum theory can indeed be applied very practically, and can guide an entire nation from the ashes of repeated bombings of a devastating World War to the highest gross national product per capita, greatest longevity for both men and women, an amazingly low crime rate, and unparalleled industrial productivity. Every girl and boy in Japan enters a science-based course of study in the first grade and completes high school as a literate person who, on average, likes school and thinks scientifically. In this paper, out of all the many applications of Tyler curriculum theory readily visible in Japan today, I shall emphasize three, namely:

1) Cyclic curriculum improvement;

2) The strengthening of democracy through active participation in small-group learning activities as well as individual and total-group learning activities; and
3) Mastery learning through motivation, vivid learning activities that provide feedback, and reinforcement of what is being learned.

Cyclic Curriculum Improvement

Most educators are familiar with Dr. Tyler's basic theory of cyclic curriculum improvement. Out of needs assessment, we start with defining behavior changes to be expected in learners as a result of their curriculum learning activities over a period of time. These goals or competencies are stated positively in terms of desirable behaviors. The teacher guides the learner to believe, think, and do what is needed in a situation in a positive manner. No time is wasted in doing or thinking about what may be wrong. Concern with negative factors is time-consuming and inefficient, and may be dangerous to the learner or to others. The learner formulates accurate mental maps of what to do. By having learners program their minds only with constructive behaviors,successes occur, and further desirable learning is encouraged.

At the end of the learning period, the learners, the teachers, and others involved in curriculum development review the evidence about what has been learned in relation to each behavioral objective. What has been mastered? What is not yet mastered but is important to master? What else should be expected next time and should be defined as an additional objective? What has been mastered but with undue expenditure of more-than-desirable effort by learners at this point in their development, and should probably be moved to a later place in the learning objectives? Such evaluative review leads into an improved definition of objectives for the next learning period, and the curriculum improves continuously.

In post-war Japan, I met weekly with Dr. Kinji Shimizu, science education coordinator of the Ministry of Science, Education and Culture (i.e., The Mombusho) and with whatever other officials might be concerned with the problems at hand. We decided to work toward a basic ten-year cycle of curriculum development and improvement, with prefectural committees continuously studying science education. Science education would demonstrate how a course of study is written in terms of behavioral objectives and learning activites for bringing about each change expected in the learners at each grade level. Science education would begin in the first grade for every child.

Now Japan has just begun its fourth curriculum cycle of education. Through each of three preceding cycles, the curriculum has been reviewed evaluatively and refined. Through such periodic reviews, any changes in the

social order are considered and needed adaptations then take place. Furthermore, the expectation of the periodic review motivates an objective attitude toward the curriculum and the expectation of continuous improvement in it.

In democracies such as the United States and Japan, it is important for every educator to take responsibility for satisfaction with each curriculum objective, or for concern about improving or omitting the objective. It is also important for every teacher to be concerned about improving the teaching process through guiding student learning more effectively. Thus the cyclic improvement method that Dr. Tyler contributed to the curriculum field also contributed to the democratization of Japan.

At the same time, the cyclic improvement method also contributed to improved learning, for instance, in science education. The International Studies in Evaluation made visible the excellence of Japanese students. In science education they excel others, especially with regard to "higher mental abilities,"[2] in other words, "scientific thinking." Since a Japanese child enters both science and language arts upon entrance to school, that thinking is well demonstrated by age nine or ten.

One of the questions asked students participating in the International Studies in Evaluation was whether they like school. The Japanese students also exceeded students of other nations with regard to liking school. It may be that the cyclic improvement process is one of the factors contributing to that student attitude.

Cyclic curriculum improvement is appropriate in each aspect of education. It is as useful in higher education institutions as it is in elementary and secondary schools and school systems. Both early childhood groups and junior high school groups improve their curricula when they have periodic evaluative review of the attainment of their behavioral objectives. Thus Ralph W. Tyler through his theory of cyclic curriculum improvement has contributed to education in every age range.

Tyler contributions are readily observable in many areas of education, namely: curriculum, research, measurement, and evaluation. Other writers will highlight Tyler contributions in the United States in research, measurement, and evaluation. However, I shall mention his contribution in evaluation as an integral part of cyclic curriculum development in Japan since evidence of individual student attainment as well as evaluation of educational programs are always essential in any nation.

During the Occupation of Japan, the Supreme Command of Allied Powers asked the Zone of the Interior (i.e., Washington, D.C.) to recommend an evaluation expert to handle the selection of students for the higher educational institutions of Japan. The ZI referred the question to Dr. Tyler. Tyler's response to the Supreme Command was that I was already there in Japan. So I added selecting students for higher education to my curriculum develop-

ment, research development, and other SCAP responsibilities with the Japanese.

With responsibility for the technical as well as administrative aspects of student selection for higher educational institutions, I had the opportunity to bring Tyler appraisal methods to Japan, and thus to Professor Tadashi Hidano, a leading psychologist of Japan, who has recently retired from the University of Tokyo faculty where he has served Japan for the past twenty-six years. His Japanese book on evaluation is a notable contribution not only to Japan but also to other Asian countries.

I would like to generalize this point. Through his students, Dr. Tyler has been able to multiply his effectiveness because each of his students uses and teaches Tyler principles and practices. It is a pleasure for me to recall that a well-known Dean of Education at a leading university in New York State in his youth had military service in Japan as one of my interpreters. He decided to use his GI benefits for graduate study at the University of Chicago. His doctoral degree as well as his competence attest to his use of Tyler methods. In general, Dr. Tyler's contributions to the curriculum field will go far beyond the direct contributions he has made personally.

Small-Group and Other Mastery Learning Activities

Let us move on to a second area of evidence in Japan of Tyler contributions to the curriculum field, namely his many contributions to methods of teaching. Dr. Tyler had made me well aware of the limitations of the teacher-centered class with a large number of students. In Japan, when I arrived in 1946, the average class size was sixty pupils per class. Today, it is some forty students per class in the elementary school, as compared with about twenty pupils per elementary school class on an average in the United States.[3] At the secondary level, the average number of students per teacher is about eighteen students in both the United States and Japan.

Teachers in Japan are taught the advantages of breaking a class into small working groups in which the group leader changes each time until every student has had a leader experience. Then, or earlier, group membership changes. The number of students per small group or partnership depends upon what objective or objectives are to be achieved. Individual learning activities as well as total group ones have their place also.

Dr. Tyler's emphasis on learning activities in terms of behavioral objectives included pupil appreciations of what they are learning. A teacher guides students in being aware of the fun of their learning activities. A teacher may say, "Aren't we glad to do an experiment today!" and thus add to the pleasantness of the learning activity. As we know in social sciences, attitudes should be taught, and not left to chance.

From time to time, Japanese students review what they have been learning in their small-group and other learning activities. At the conscious level, they appreciate that they are taking part in pleasant learning through which they develop needed skills and learn new concepts and beliefs, perhaps the concept that it is pleasant to help the group by listening attentively to the student taking a turn in explaining his or her point of view. Students learn to appreciate new ideas advanced by peers. Japan today has *integrated* schools that have no problems about "minority students" or "school busing."

A teacher in Japan is a planner and a manager. She or he uses diagnostic and prescriptive teaching and a variety of teaching methods to guide development of each student through classroom learning activities. The teacher does not have to have a high frequency of personal interaction with each and every student every day as long as each student is getting and using feedback about his or her own learning and and is getting help from experienced peers, volunteers, aides, and other resources at hand.

Does this remind you of Ben Bloom's "mastery learning"? During the years that Ben Bloom and I were doctoral students with Dr. Tyler at the University of Chicago, we were working with behavioral objectives and their importance in learning and in teaching. Professor Bloom has gone on to make an invaluable contribution to the United States through his concept of "mastery learning."

The application of mastery theory in Japan from the time I arrived there in 1946 led to current practices described well by Harvard Professor Ezra F. Vogel, whose book I have already mentioned. Let me excerpt one paragraph from *Japan As Number One: Lessons for America:*

> It is impressive how well schools throughout Japan ensure that virtually every pupil achieves minimal standards. No student is failed, and all students of the same age proceed together up through grade nine. The threat of failure or of being held back is considered neither desirable nor necessary to encourage students to maintain minimal performance standards. Approximately ninety-five percent of lower secondary students attend public institutions. There is no tracking, and all students are expected to acquire the basic materials of that grade. . . . Americans are much more prepared . . . to give up on difficult students. Japanese teachers exert themselves to see that every student in the class has achieved a certain level before the end of the school year. They mobilize other students and parents to work with students with difficulties, for they are responsible not just for presenting the material and giving the students an opportunity to learn but for making sure that they do learn.[4]

As Professor Vogel has reported, the Japanese teacher of forty students is effective. He or she plans, organizes, and manages resources at hand including experienced students, parents, television, and other instructional media and text materials. Japanese teachers expect *all* students to learn.

So far we have discussed two Tyler contributions to the curriculum field, each of which has strengthened democracy in Japan, namely: 1) cyclic improvement in curricula and 2) small-group and other democratic mastery learning activities. For the third Tyler contribution to the curriculum field, I should like to focus attention not so much on what curriculum changes are necessary but on how to make them successfully.

I recall lunching with Dr. Tyler here in the United States when I was concerned about how to work effectively with several department heads in a relatively new higher education system of some twenty colleges and universities. As a Curriculum Consultant, I was assisting the Dean of Curriculum for the entire system. The department heads at headquarters were primarily able professors in their own specialty, but relatively inexperienced in their newly assigned administrative positions. Dr. Tyler, of course, immediately understood the problem, and pointed out the importance of helping personnel build *self-confidence* through feedback about their accomplishments. We reviewed possibilities for developing their self-confidence through *success feedback*. The strategy worked well in succeeding months, even at that level.

Tyler is brilliant in considering some n-dimensional aspect of curriculum, formulating its significant concepts, and then communicating those concepts to others who learn and use them. To work with an entire nation such as Japan, I had to learn such Tyler communication techniques well. I had to identify arguments that were important to the Japanese. Furthermore, I had to communicate through an interpreter who might or might not have much background in the subject at hand. Let me give you an example.

In the Occupation of Japan we were in the midst of the first labor strike, a vital element in the teaching of democratic practices and techniques. The printers union was one of the labor unions involved. At exactly the same time, we had completed the manuscript for the first entrance examination for admission to the higher educational institutions of Japan. On a date already announced, over 200,000 copies of that test had to be in the hands of over 200,000 applicants throughout Japan, and we had no time to lose in getting the tests printed and to the testing centers.

When the responsible Ministry official telephone me, I asked him to bring the union leaders to my office. When they appeared, I judged them to be of an age to have sons and daughters eligible to apply for college entrance. When they left my office half an hour later, they were determined to continue the strike but with a single exception of great significance for the

future of Japan and for the future of labor: the entrance examination for higher education would be printed at once. Thus the sons and daughters of union workers would be on a par with the sons and daughters of nobility in demonstrating their competence on the higher education entrance examination on the date scheduled. I congratulated my interpreter on the excellence of his interpreting. We had communicated in good Tyler fashion.

Let me also point out that this Tyler contribution to selection of students for the higher education institutions of Japan has been a major factor in enabling young Japanese women to demonstrate their competence and to move forward toward equality with Japanese men.

I recall an AERA annual meeting with an invited address by Dr. Tyler. That address included a clear and simple Tyler statement about the three steps by which a learner is taught, namely: (1) motivation, (2) vivid multi-sensory learning experience, and (3) reinforcement of the learning to the point of confidence and successful use of what is learned.

This three-fold description of instruction summarizes a great deal of learning theory very succinctly. The first step of "motivation" involves expert teaching of learning activities in which each student personally sees the importance of what is to be learned for his or her immediate and future life. The learning activities may be, for instance, small-group ones in which each student contributes and is recognized for his or her contribution. Such success with peers motivates further participation in similar small-group learning activities.

The second step of vivid, multi-sensory learning experience implies learning activities that are emotionally satisfying, pleasant experiences. Strong emotions interfere with learning, you know, but mild ones facilitate it. Such a learning experience may, for instance, involve "role playing" and listening to each other, and then acting out different roles as they move about on a designated stage area.

The third step of "reinforcement" may involve traditional "spaced practice" over a period of time, or, even better, real opportunities to make use of what is being learned. The opportunities for reinforcement of learning should be successful explorations of a variety of pleasant applications.

This three-step description of the learning process enables a student to guide his or her own learning at the conscious level. It also enables prospective teachers and teachers in service to prepare lesson plans that guide successful learning. Learning/instruction is motivation, vivid learning, and reinforcement of it, as Tyler said.

Conclusion

Today we have noted that Japan has a course of study developed by the Japanese in the aftermath of World War II under the guidance of a Tyler

student as the Curriculum Specialist with the Supreme Command of Allied Powers. This Curriculum Specialist brought to Japan such curriculum contributions as behavioral objectives and cyclic curriculum improvement through periodic evaluative review, analysis, and satisfaction coupled with plans for further development of the curriculum.

Although elementary school teachers in Japan have forty pupils in a class, they expect each child to learn well. The teachers serve as managers who guide student learning with the help of more experienced students, parents, television programs, textbooks, multi-media, and other educational resources. Small-group as well as individual and total-group learning activities enable students to learn rapidly in a school year of two hundred and forty days.

When the students all graduate from high school, they have the privilege of competing with other graduates, both women and men, who take an entrance test for the higher educational institutions that prepare students for working cooperatively in and across business, industry, and government.

Tyler contributions to Japan during the Occupation of Japan were made in such a way that they have continued to this day as an integral part of Japanese education. Immediately at the conclusion of the Occupation, the Japanese people swing back away from policies and procedures initiated during the Occupation period. But, according to the doctoral thesis of Dean James Doi of the University of Rochester, the one area in which no swing back occurred was the curriculum area. In that area, Tyler methods were being used in guiding the Japanese in strengthening their democracy. Current international studies evaluating student achievement in nineteen countries in science education show that Japanese students excel others by ages 9–10. Their "higher mental abilities" are especially noteworthy.

My curriculum study with Dr. Tyler has enabled me to bring his contributions to the curriculum field to the United States as well as to Japan. Upon my return to the United States, I married Leonard C. Todd, with whom I have enjoyed having three children: two sons by the birth process, and one daughter from Japan by adoption at age three. Thus I had the opportunity to use Tyler curriculum contributions to help with guiding a new curriculum field into a place of importance, namely Early Childhood Education. With Dr. Helen Heffernan, then in charge of elementary education in the State of California, I wrote *The Years Before School: Guiding Preschool Children*,[5] the Macmillan book that defined the preschool curriculum so that it runs smoothly into elementary school curricula. The book was published one year before the federal funding of the Head Start program and thus provided a curriculum base for developing preschool groups, in accord with curriculum theory I had learned from Dr. Ralph Tyler. Other books have dealt with, for instance, *The Aide in Early Childhood Education*,[6] and have guided the elementary school teacher in working with parents as well as with children.[7]

It is the Japanese custom to render *on*—great respect, appreciation, and devotion—to the professor who has guided them. Dr. Ralph W. Tyler, a great curriculum specialist, deserves our respect, appreciation, and devotion for his work.

Notes

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[1] Ezra F. Vogel, *Japan as Number One: Lessons for America*, Cambridge, Massachusetts: Harvard University Press, 1979.

[2] *Ibid.*, p. 159.

[3] *United Nations Statistical Year Book*, New York 10017: United Nations, 1979.

[4] Vogel, p. 175.

[5] Vivian Edmiston Todd and Helen Heffernan, *The Years Before Schooling: Guiding Preschool Children*, New York: Macmillan Publishing Co., Inc., and London: Collier Macmillan Publishers: 1964, 1970, 1977.

[6] Vivian Edmiston Todd, with G. H. Hunter, *The Aide in Early Childhood Education*, New York: The Macmillan Company, 1973.

[7] Helen Heffernan and Vivian Edmiston Todd, *Elementary Teacher's Guide to Working with Parents*, West Nyack, New York: Parker Publishing Company, Inc.: 1969.

Recollections of Fifty Years of Work in Curriculum

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It was slightly more than fifty years ago, in February of 1929, that a group of us who had been deeply interested in trying to solve curriculum problems formed a society for curriculum study. This group included people like W. W. Charters, who was at that time my superior; Edgar Dale, who was a colleague of mine at Ohio State; Henry Harap, who had been at the Cleveland School of Education which later became a part of Western Reserve; and Hollis Caswell, who was sometime later made Executive Committee Chairman of the group. In all, there were some twenty of us who formed the Society for Curriculum Study. Over the years, every February, we would meet at these gatherings and sit around at the table and talk about the kind of study we were trying to do to improve curriculum. When Caswell served as Chairman of the Society's Executive Committee of the organization, he had the idea that it would be a good idea to grow. In 1943, under Chairman Gordon Mackenzie, our group merged with the much larger organization of the division of the NEA of the Supervisors and Directors of instruction. That meant that many people who were not interested in studying the curriculum—they were actually supervisors—joined the group (now the Association for Supervision and Curriculum Development) and it lost some of the sense of immediacy of studying and trying to understand what curriculum problems were and how to approach them.

In looking back at my own recollections about curriculum development at that time, I would like to discuss some of the ideas which influenced me in my approach to curriculum planning. I recall, first of all, that I was very conscious as a graduate student, both at the University of Nebraska and later at the University of Chicago, of the fact that the notions that had held the curriculum field together for so many years had been overthrown. These notions were that certain subjects had value, whether you believed that they were the faculties of the mind or that they had value in disciplining the mind. These views were greatly affected by Thorndike's studies on the transfer of training effect. His work showed that students, for example, that took geometry were no better at logical reasoning in matters that had nothing to do with geometrical figures than students who had not been taking geometry

were. Those that had taken Latin were no better in the English language then were their peers that hadn't taken Latin. There was this tremendous feeling that all the underpinnings of the curriculum—the faith which we had in various subjects—had disappeared. We needed to develop a new faith based on psychological findings.

Thorndike at that time had the notion that every particular thing to be learned had to be learned in school in order to use it later in life. He had the conception of identical elements—that you had to have identical elements in the things being taught in school if they were to transfer to situations outside the school. I, however, went through and got my doctorate in educational psychology with Charles Judd. Judd had studied in Leipzig, and he strongly believed that you could generalize modes of thinking and principles. He believed that transfer of training took place by generalization rather than through identical elements. In these two theories we had the initial basis for considering how to rebuild the curriculum on the views of educational psychology—the views of how learning took place and the way in which transfer of training took place in connection with it. That situation, of course, accounted for the variety of studies that curriculum people then had going on. People do not understand, for example, that when Bobbitt was doing the Los Angeles curriculum study he was attempting to identify the elements of citizenship that needed to be learned in junior and senior high school, if they were going to transfer outside of school into good citizenship. Following Thorndike, he tried to identify all the particular activities that citizens in Los Angeles carried on that were part of being a good member of society; he was trying to identify activities specific enough to be transferred. Judd, who was rather dramatic in manner, was at the same University as Bobbitt, and used to snort at the idea that one had to have all of these little particulars of behavior; he felt that you could generalize the transfer of some of these things.

Our concern, then, about the curriculum was a concern for learning. So many people before had been concerned with the question, "Was geography good for the mind, or was history good for the mind?" We were concerned with what students would learn from the subject matter, and I think that notion had much to do with my own efforts in curriculum-making. Furthermore, because I had been a teacher, and then at the University of Nebraska a supervisor and teacher of teachers in science, I had become convinced of the fact that what we talked about in college didn't necessarily operate at all in the school. I was much concerned that curriculum people look at what is going on in the school, and I felt that the major laboratory for the curriculum is not to speculate on what our forefathers might have had in mind when they founded the schools, or on whether schools are a means of getting cheap labor, or whether they're a means of getting freedom from kinds of occupa-

tions that are carried on for other people, and questions of this sort that some people spend their time on. The key question in curriculum is what is worth learning, and how can students learn it?

I was also impressed in my thinking about the curriculum by the fact that there had been a considerable change in society. I began teaching in 1921, 60 years ago. The changes occurring then, combined with the realization from Thorndike's work that you couldn't expect what is learned today would go tomorrow unless students saw some similarity or some generalization, led me to be concerned about what we knew about the larger society as a basis for schooling. I was also much impressed with the work of Dewey in his laboratory school, in which he noted that if a student was interested in something, he would go a long distance with it. Dewey's writings on interest and effort, published in 1913, made a tremendous impression on me as I began to teach. I was interested in knowing about the students—what were their interests, what did tthey learn, what were they ready for? We knew, of course, that there was no use trying to teach students if they were not yet ready. "B" could be taught if "A" were already there, but you had to find out where that was and what the students' interests were.

In the so-called Tyler rationale, then, I was simply bringing this notion that you have to consider the students to the attention of *my* students who were going to work with the curriculum. I was emphasizing that you have got to consider the interests of your students if you are going to get any motivation, and you also have to build on their present background. I felt it was important, in this context, to also consider the opportunities that students would have to make use of this learning outside of school. What is society like? We make so many mistakes in this area. In California, for example, the legislature twelve years ago enacted a law that would provide for the teaching of Spanish in the elementary school. Ten years later the governor asked the System Development Corporation to make a study of that policy. They found, as you might expect, that those kids who had contact with spoken Spanish in the home or in the community had a much better command of Spanish than children who had not taken Spanish in the elementary school. But those children who had taken Spanish in elementary school but had not had any chance to use the Spanish spoke it no better than the children who had not had Spanish at all in elementary school. It seems like such a simple principle, and yet it is so often overlooked. You've got to consider what society is like outside and whether there are opportunities to use the skills. If there is no use for skills, they are quickly forgotten. Teaching something which will not be useful seems to me to be such a wasteful thing when there are so many things to learn that do have usefulness.

Living at the time that I did, when there were new developments in knowledge, and especially in the area that I knew best, the sciences, led to

another concern I had for curriculum development—the continuous examination of our so-called cultural heritage. What do these subjects have to offer? I felt we should look at those resources as we planned the curriculum. I am trying to point out that I think that anyone who tries to develop an approach to curriculum is going to be greatly affected by the problems of the day that are seen as important. At that time, the problem was to build an underpinning to justify a curriculum which for several hundred years had been taken for granted by the rationalizations that had been built up about the value of a particular subject without regard to experimental or empirical data. Now we could begin to see that this was an inadequate basis for planning the curriculum. The question was, "How can we build anew and go forward?" My effort in the syllabus was to guide students working on the curriculum to consider these questions so as to be sure that they didn't find themselves assuming things that probably were not true.

Finally, my experiences in the Eight-Year Study influenced my beliefs about who should be involved in planning the curriculum. I was much impressed with the fact that as I worked with the thirty schools, the administration of the high school could draw up a plan about what they were going to do, but if the teachers were not familiar with it, they continued to do what they had been going to do before. The question, "What are the *actual* learning experiences of the youth?" is an important one. Most of the original plans for what was to be done in the schools during the Eight-Year Study were discarded because what the administrators wanted to do was not what the teachers understood. As they began to develop the ideas, they had to be worked out with the teachers. That's why I became such a devotee of having curriculum planning proceed, with certain guidance and technical assistance, with the actual participation of teachers in the development of the program. If you are going to have a program which is *enacted*, the teachers must participate.

The explanation for the title of the monograph *Basic Principles of Curriculum and Instruction* is: don't get wasted in arguing whether curriculum ends with the outline, or is curriculum what is intended, or all of the stuff which you see discussed as though it were a matter of terrible importance. How we define the curriculum is not important; what is important is what kids are learning. So if we put them together, the principles of curriculum *and* instruction, you avoid these types of questions. Curriculum and instruction have to do with what children can learn, how can they learn it, how can they be aided to continue that learning, and how do we know that what we are doing is worthwhile and a sensible way of doing it.

Some work that I did at Case Western Reserve in helping develop the medical school program there illustrates how working with curricular groups in trying to qualify "what we are trying to produce here" can lead to a greater understanding of the type of curriculum and admission requirements

needed. At Case Western, we observed that the quality of medical care provided by the general practitioner was deteriorating. The Flexner report, and the combining of medical schools with universities, had had the effect of emphasizing medical *research*. As you got people who were more and more interested in research, they began to think of the patients as objects of study and not as people who needed help to recover. The faculty were disturbed with this trend and began to clarify the role of the physician as a health counselor rather than the physician as a medical researcher. Within this context, they decided a physician needs to know enough about the operation of the human body, both its functioning and malfunctioning, to have a basic background for this counseling, but they felt effectiveness as a physician depends not only on having that knowledge, but also in being able to use it. As a result of clarifying the role, they began to make changes in admissions procedures and instead of simply admitting the students who had the highest scores in science, they looked for those with an adequate background in science who were also interested in helping people. They began to experiment with admitting students who had humanities backgrounds, and surprisingly, found that they had average grades in medical school, somewhat better than those students who had their background in science.

I would like to finish my comments by saying that to me the last fifty years has helped me to see the value of studying the curriculum as it is in operation. It is important to try to understand how learning takes place under different conditions. In trying to build a curriculum, you must work with the people who are actually trying to bring about learning through teaching.

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What the Curriculum Field Needs To Learn From Its History

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I am not an historian. My response to the question posed in this symposium* is based on my own limited experience and my judgment of the current curriculum problems and issues that appear to have arisen at other times. I have chosen five of them as examples.

A year or two ago, curriculum leaders were perplexed, some were even astounded, at the insistent emphasis of the press, in public meetings and in legislative halls, on the admonition to the schools: "Back to basics." This came at a time when many curriculum developers were proposing new courses of study—ecology, global energy, values clarification, multicultural understanding, world perspective. They proposed to broaden the curriculum rather than to narrow it.

In spite of evidence from the National Assessment of Educational Progress that 9-year-olds and 17-year-olds were doing better in reading than in previous assessments and more than 90 percent of 17-year-olds could add, subtract, multiply, and divide accurately with whole numbers, the public appeared to accept without question sweeping generalizations that the schools were failing, student achievement was dropping, and schools must concentrate their efforts on reading and arithmetic. Curriculum leaders were unprepared to deal effectively with this shift in emphasis.

There has been at least one other time in the history of American education when similar public reactions have occurred. I remember the mid-1930s, in the depths of the Great Depression, when a national conference on the crisis in education was held in Columbus, Ohio. This conference urged the schools to focus their main efforts on the "Three R's" and on character development. Part of the high level of youth unemployment at that time was attributed to the lack of basic skills of youth. Senator Royal S. Copeland of New York was then chairing a Senate committee investigating crime and racketeering. The committee reached the conclusion that the way to reduce crime was for the schools to give serious attention to character education.

It seems likely to me that there have been several other periods in which the public has urged the schools to get "back to basics."

Surely we can learn from historical studies of these occasions about the climate of opinion in which these pressures develop, about the atttempts made, or not made, by educational leaders to get the relevant facts before the public, and to get better public understanding of the curriculum and the rationale for its offerings. Do these reactions usually accompany rapid social changes? Are they related to the acceptance, tacit or explicit, of new educational aspirations? During these periods are other social institutions—family, church, medical, and legal institutions—also under attack? How were these pressures resolved? Answers to questions of this sort should give us a better understanding of these cycles in which public pressure is placed on the schools to return to the curriculum of an earlier day. This might enable curriculum developers to anticipate these occasions and react constructively in curriculum planning.

The current wave of legislation on educational accountability has influenced many schools not only to narrow their curriculum offerings but also to fragment their educational objectives into minuscule, isolated bits of learning, and to evaluate student progress using tests that appraise only a part of what the schools seek to teach. This situation also seems to me to be one that has occurred in earlier periods, although the standards of accountability have probably been different. Shortly after the First World War, the schools were attacked for their lack of strict discipline. School boards in Nebraska, where I lived at that time, passed regulations regarding student behavior and held both principals and teachers accountable for the enforcement of these regulations. Board members visited schools, and in our community two teachers were dismissed for their laxity in maintaining proper decorum.

At an earlier time in Nebraska, the public and boards of education were concerned about the adequacy of the teachers' knowledge of the subjects they were teaching. Periodically, they were called before the school board and given oral quizzes, mostly on facts of arithmetic, geography, and American history, and the spelling of rather unusual words.

All social institutions are generally held to be accountable for their performance, but in the case of the schools the accountability system seems to vary from time to time in terms of what they are held to be accountable for, and in the degree of enforcement of their accountability.

Historical studies should help us gain perspective and furnish a sounder basis for seeking public consensus on the objectives of the curriculum, the appropriateness of learning experiences, the influence on learning of positive reinforcement and the like. In these earlier periods of emphasis upon accountablity, what were the public conceptions of the school's responsibility? What were the accepted views of the appropriate indices of school operations? How did the schools respond to these changing expectations of acceptable performance? Answers to such questions should enable school

personnel to initiate dialogues with parents and laymen that would help to build a sounder basis of public support for an appropriate educational program, including particularly the curriculum.

A third example is provided by the periodic efforts that I have observed of curriculum developers seeking to introduce new subjects into the public school curriculum. Usually these efforts were unsuccessful in spite of persuasive arguments as to the value of the new subjects. Yet, within the past century, science was introduced and became established as a major subject in the high school curriculum. It has not yet become fully established in the elementary school. Social studies was introduced in the 1920s and is quite firmly established. Driver education, introduced about 50 years ago into the high school program, is now widely accepted.

During the past century, several subjects have been dropped from the curriculum of most high schools. Greek is very rarely taught, Latin occupies a much smaller niche, geography as a separate subject exists in a minority of schools. I believe that curriculum planners could profitably learn from investigations of these subjects.

What were the influences that brought some new subjects into the curriculum and forced some older ones out? Are the forces largely within the teaching profession? The university faculties? Organizations of business, industry, agriculture? Parents' associations? Others? What kinds of arguments have been most persuasive?

Curriculum developers rarely refer to these previous experiences in deciding whether to propose a new subject, units within existing subjects, or nothing at all. Surely knowledge of the dynamic factors involved in earlier curriculum changes would be helpful.

Even more helpful to us in our present efforts to develop curricula to meet the needs of children and youth not now learning what the schools and colleges seek to teach would be the history of the curricular and instructional innovations which were successul in establishing the academies in place of the Latin grammar schools, the public high schools in place of the academies and, in general, the developments that enabled our high schools to help an increasingly wide range of students. What unmet needs were identified, and by whom? What conceptions of subject matter and of learning were developed to correspond to the identification of assets and needs of the "new students"? How were the courses designed and taught? What means were used to cull out unsuccessful efforts? From what sources were leaders for these efforts recruited?

At the level of post-secondary education, we could learn much of value in curriculum and instructional development by intensive studies of two great American institutional innovations: the land-grant colleges, and the junior colleges. The land-grant colleges served a very major need in providing

post-secondary education to the "agricultural and mechanical classes." The development of effective curricula and instructional practices took a long time to mature—1870 to 1910. The junior college, originated in Illinois and widely established in California by 1930, made a very important contribution in the post-secondary education of youth from working-class families, as well as those from the middle class with modest incomes.

The faculties of both these institutions appeared to recognize the different educational goals and the different learning problems of their clientele in contrast to the successful students in traditional institutions of higher education, and they also recognized the powerful assets of these new students. How did they proceed to develop curricula? What obstacles were encountered? What principles guided those who were successful in curriculum development? These and other questions need to be answered if we are to benefit from the remarkably successful experiences in developing these pioneer institutions.

Finally, I suggest that we could benefit greatly from studies of curriculum leadership as evidenced in curriculum development over the past two or three centuries. It is conventional wisdom that significant changes in the curriculum have been developed as responses to demands and opportunities arising outside the school, imbedded in the great changes in society. But we know little about the persons who are able to translate external pressures into constructive responses. It seems likely that most of us in the schools will respond to pressures, either by resistance or by acceptance, rather than by translating the pressures into forces supporting far-sighted educational improvements. I believe we can learn a great deal that would be helpful at this time, if we had much more knowledge of past experiences in the development of constructive leadership for curriculum development. We certainly are in the midst of great social changes. We are certainly experiencing external pressures for curriculum and instructional change. Can we learn how to respond in a constructive way to rebuild or reform, that is, to develop educational institutions and programs tuned to present and future needs and opportunities?

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Educational Measurement: Where We Have Been, Where We Are Now, Where We Are Going

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The purpose of this meeting* is not to present an answer to this question as though it were official, or the only possible response to this query. Rather, it is to suggest some of the respects in which persons who are considered professionals in the field of educational measurement, evaluation, and testing might look at these three questions. This is an important issue to examine because conditions change, and often the paradigms and techniques do not change soon enough to take advantage of the new demands made upon the occupation.

I would like to look at these three periods of time with reference to certain major variables which have affected the field of educational measurement. Turning first to the nature of society as it relates to education, we can see that in looking at the past, most of the problems of education were related to the need to ration a scarce commodity. It was rare to find a civilization that could afford to spend as much on education as we do today. If you consider adult education, as well as primary and secondary education, current expenditures for schooling account for a good 10 percent of our gross national product. When I was a child, only 2 percent of the gross national product was spent on education in the public schools and colleges. Education in the past was rationed because of a lack of available manpower and because so much had to be spent in obtaining food and shelter and other physical necessities of life.

As we've learned to use science and technology to satisfy those needs, we've seen a shift in the percentage of people engaged in material production. When I was born, in 1902, 81 percent of the labor force was engaged in production and only 19 percent were engaged in all other activites. Now, we use less than 30 percent of our labor force in material production, and have many more people available for satisfying the non-material needs of human beings. These non-material needs, in order of the present use in our labor

force, are health services, educational services, recreational services, administration, accounting, and science and technology. These areas represent what we call the service industries in contrast to those industries engaged in material production.

Now with that change in the amount of resources needed for material production has come a change in the perception of who should be educated. The idea that education should be rationed has changed to the notion that it pays an economy to have all of its people educated. Without education, a good many people would be on welfare, since there is no place for the uneducated person in the present distribution of the labor force. In 1980, we had less than 4 percent of our work force engaged in unskilled agriculture, and only 3–4 percent engaged in unskilled labor in other occupations. It has become necessary to think of education no longer as needing to be rationed, but instead to try to think of education primarily as something we seek to try to attain for all.

When we look at the purpose of educational measurement, we can see that when education had to be rationed, the purpose was to select people. Even the grading that went on in the schools was designed to judge whether a child should be encouraged or discouraged with respect to continuing his education. When I was in the elementary school in the first decade of this century, the average child stayed in the schools less than six years; only 10 percent went to high school, and only 3 percent to college. This concept of using measurement instruments to select and sort students was reinforced by Darwin's findings, and the notion of population distributions as surviving or not surviving in terms of their fitness. Though this was not what Darwin meant, people nevertheless talked about individuals surviving or not surviving due to their fitness. Obviously, the people who were already in positions of high status considered that their survival was due to their better fitness, so we had the notion of trying to find people who were in the lower classes who were like people in the upper classes and might therefore be encouraged to survive.

The conception of learning also affected the field of educational measurement in the early days. Though Thorndike's experiments clearly indicated it was not true, the contemporary view of learning was that of a student being passively filled with knowledge, rather like filling a jar. To test whether he had much or little of a particular ability, you sampled him. The variety of behavior was viewed to be largely in the direction of more or less learning, rather than the variety of behavior referring to the many ways of representing learning behavior. The difference between this concept of learning and the present view of learning is, I think, best expressed by the notion of retention. In the past, retention was viewed primarily as a matter of undefined memory, and retention studies focused first on short-curve memory and later on long-term memory. Today, the notion is that learning is really acquiring

ways of reacting to dynamic situations. Growing out of our studies in cognition has come the concept that one has to consider both the situation and the behavior in order to understand learning and its retention.

An example in the area of reading illustrates our current view of learning and retention. If one is not day after day encountering the demands of reading, it is possible for one to lose much of his skill in this area. This was best demonstrated with the effort of the Marine Corps to enroll many of its aspirants who did not apparently know how to read. It turned out that they were able to read in school, but they had not been in situations since leaving school which had demanded reading, so they had forgotten this skill. Thus the notion now of learning and retention is that of acquiring behavior that can be continued if one continues to use it. To put it another way, the dynamic individual is continually meeting situations in life in our modern society which are novel. We do not have a static society, and the individual has to deal with change in some way or another. If he finds behaviors that he has learned are helpful, he uses them and they continue; if he doesn't find them useful, he doesn't use them and finally they drop out. More recent studies in neurology have helped to emphasize this point by showing that neurons disappear if they are not utilized. Which of the neurons develop, and which strings of neurons develop, depends upon the opportunities they have for their utilization. If they are not utilized very long, they drop out.

These new conceptions of learning and behavior, as we come to what we are dealing with now, confuse the whole situation and contrast to the simple ways we knew before. A typical test situation in my lifetime, for example, and the one that aroused the greatest excitement, was the army Alpha Test in the first World War. Here we had a situation in which two million young men were drafted into a standing army of only fifty thousand. We had to have training for a large group of young people, none of whom had had any military training experience. How to select those who would profit most effectively from the training was the problem the Army Alpha Test attempted to deal with, and it was relatively successful. Although about 25 percent of the persons who went to their particular stations failed out, especially in the officer training camps, most of them succeeded. From the standpoint of the army, they were able to develop a relatively effective fighting force in much less time than would have been possible if they had tried out each person and then had to reject many of them. Using a relatively simple, short test to evaluate large numbers of unknown people is, of course, no longer the situation. Today, it is quite possible to get much more information than can be provided by a short test for persons that are otherwise unknown.

The technical problems of measurement were viewed in the older period primarily as being related to objectivity and reliability. It was taken for granted that validity could be obtained by just getting a criterion which

already had established whatever you were trying to measure. Objectivity, however, was considered very important because in order for a person to have an equal opportunity, the test had to be fair. Objectivity was seen as so crucial that the Carnegie Foundation allocated funds for three international conferences on examinations in 1931, 1935, and 1938. The reports of these conferences dealt primarily with the great differences in the scores given students when they were rated by different tests. For example in England, where the oral test was seen as the very best way for determining who had gained the most from learning, it was found that when the same individuals were examined by two different committees, that they got quite different results. This method did not have the objectivity previously thought.

At the time, the simple solution to the issue of objectivity seemed to be to develop multiple response or multiple choice tests. In this type of test, once you'd agreed upon the score and upon the right answers, there was no judgment involved in scoring it. The fact that that might not be a very valid indication of the kind of behavior researchers were after was not a concern. For example, if they were interested in the behavior of a person forming his own statement—writing, as it were—that the objective test might not measure writing did not bother them because the theory of learning was that students had knowledge in differing amounts, but not in differing amounts in different subject areas. It was thought that students had a certain ability to acquire knowledge (IQ), and whatever knowledge they had they had largely in different amounts, but not in different areas. This was the notion that writing ability would correlate with other things, and that if you measured one of the other things that was easier to measure, you would get accurate results of the student's learning in writing, as well as in the actual material tested. This was a common view at that time.

Reliability was often associated with objectivity. The question that was asked was how reliable was the sample on which you judged where the student stood on the continuum, rather than considering the reliability of the environment, i.e., the content. Take, for example, the matter of writing as a case in point. One could look at reliability in terms of whether a sample of writing represented a large enough range of the kinds of writing behavior that we expect students to learn in a high school writing course. Then the reliability of that question becomes the reliability of the sample. The question might then become whether we have enough different kinds of writing behavior that deal with different kinds of content. Have we, for example, got a reliable sample of the content that deals with personal relations—such as thanking one's aunt for giving you a Christmas present or writing to order some bicycle from a mail order house. The problems of reliability in the past, in other words, were not the problems that we now see as we begin to understand the way in which learning is relevant to the situations that call for

this behavior. The ability of a person to generalize over a range of situations is one of the important questions at issue today.

The reporting of educational measurement in the past was influenced by the notion that what one learned was rather mysteriously something up here in the brain. Researchers felt you had to have some indication of the learning, but believed you could only represent learning by using abstract numbers. Thus, we had a great concern over the use of derived scores and other means of reporting in terms of comparisons with other students, rather than reporting learning in relation to an absolute. This type of comparison reporting is in contrast to performance evaluation in which, for example, you determine that a typist can type 50 words a minute most of the time on the type of material that is used for a particular office. That kind of performance evaluation, which is strong in industry, did not carry over into the notion of how to report in education, despite the fact that the significance of schooling is not nonsense syllables. The significance of schooling is learning to do things that are considered important in society, and necessary for the person's participation in society, and necessary quite largely for his own enjoyment and satisfaction in doing things. We do not need to have abstract numbers to record achievement; as in the National Assessment of Educational Progress we can, instead, give examples of what a student can do.

Another question which has affected the field of educational measurement is whose interests are considered paramount. In the past, the interest of the institution was considered paramount. Did we get good students for Timbuktu? Have we preserved the standards? Have we protected the institution? However, in recent years, the civil rights movement and studies of individual learning have led to an increased concern for the individual's protection in a testing situation. The rights of the individual did not matter, for example, when I was in Russia talking about testing. If they can get a hundred people who can do a particular kind of work, they don't care about another thousand who might have done it just as well but who don't get the opportunity. Their concern is with the state and not with the individual. But in a democratic society, the goal is different because we profess a concern for the individual. The question of the protection of the individual, and whether we have an adequate description of his learning, has become the key issue today, rather than whether we have described students well enough so that an institution can select students it feels well succeed.

So today, I think we are confronted with the fact that we have learned to be concerned with different problems. Our situation no longer requires rationing of education; in fact, some institutions of higher education are worried about having enough students rather than having too many students as was the case fifty years ago. Our concern instead is with enabling as many as

possible, and preferably all, students to learn what is required for them to participate effectively in our society and to gain the sort of personal development necessary to be members of this type of society. That concern focuses us not on finding out how the individuals we are testing differ from those who are successful—that method tends to identify things students don't have or know. Now our problem becomes identifying assets on which schools can build. For example, instead of using the criterion of the college aptitude test for admission to higher education, the emphasis should be on identifying assets on which learning can be based. We should expect college professors to learn how to build on the assets of students who do not achieve on such aptitude tests, rather than try to find students who get good grades and who will likely succeed with present college professors and methods. The failure to modify our procedures is resulting in circular reasoning. We find students who will get along because they correlate with professors' grades, so that doesn't require the professor then to modify their instruction in any way.

At the conference of the National Academy of Education in Sweden in 1984, several people reported from Europe about the way in which higher education was trying to avoid the dilemma of becoming able to deal with new kinds of students by setting higher and higher entrance requirements. In the opinion of those who reported in Sweden, this was really stopping the effort to get a democratic set of institutions in the European countries. Faculty were facing the question of new standards blindly, without asking the question, "Are we setting the standards in terms of making it easier for teachers, or are we setting them in terms of maximizing the assets the students have?" Since we know that most students can learn what the schools have to teach, or have decided to teach, we can no longer go back to saying the students just aren't intelligent enough. John Dewey observed in relation to his laboratory school experiences that he had never found a child who couldn't learn what they were trying to teach. The problem isn't educability of children; the problem is our being ingenious enough to identify ways of finding out what their assets are and building on them. This is the problem that we face in terms of our knowledge, and we are falling behind in trying to devise methods or means of dealing with this issue.

We need to consider the situations in which young people will use the behavior which is to be learned. Studies in cognition have found that only about half of cognition depends upon the formal algorithms with which the mind operates, i.e., the logic of the situation. The other half depends upon the familiarity with the situation itself and the decision that one has to make about whether the algorithm is relevant or not. The importance of considering the situation is beautifully illustrated in my visit recently to a university which was quite proud of its use of computers. In one social science class, they said they dealt with solving practical problems with the computer. The

problem I saw being solved at this men's school was this: "A guy has gotten involved with three girls and he rated them each on certain criteria. How do you maximize the situation so you select the right one?" If that is a relevant situation in using computers, it is obvious that my experience with marriage and girls is quite different. The failure here was assuming that all that is involved in solving the problem is the logic of the situation, without realizing that judgments are made also on the basis of experience and in the context of the situation. How judgments are made is an illustration of our failure to apply what we're learning about cognition in studies of neurology and learning. Many people are now talking about tests of higher-level cognition skills as though they were primarily abstractions. Instead, we need to try to find the kinds of problems that young people deal with that they can be helped to solve if they learn ways of analyzing, interpreting, and synthesizing. Human behavior is concerned with concrete problems, and helping the students generalize from those concrete problems to the kinds of situations in which they are helpful is part of the role that is not often considered when we are seeking to make tests of this social behavior.

More and more we're finding that retention studies are helping to emphasize the importance of considering the situation in which learning is to be demonstrated. I think that I was first informed of this by the follow-up of Vassar graduates done by Sanford about twenty-five years ago. He studied students who had apparently internalized the conception of improving society and were thought to be liberal and socially active. He found that if the students went into a community where there were many active organizations, the students continued to grow. If they went into a community where most of the people were concerned with bridge or golf or other non-social activities, about 80 percent of them after five or ten years were no different from high school graduates. They didn't show any of the things they might have learned. On the other hand, he found about 20 percent who went in and changed the environment. This illustrates the importance of recognizing the environment or situation in which the learned behavior is to be demonstrated. If you're teaching a person Spanish, for example, and they're not going to have a chance to use it, in a few years they won't have any Spanish. If it's going to be useful and you think they should be continuing to use it, they have got to learn how to find an environment or produce one where Spanish is being continually utilized and challenged. I use Spanish as an example because it is an obvious illustration, but this seems to be true of many other types of learning..

And what does that mean for educational measurement? Considering purposes for measurement, we no longer see measurement just as a means of selecting students. The most attention in the field in recent years has been given to the problem of program evaluation. Of course program evaluation

requires quite different instruments and procedures from what we had been developing for selection. With program evaluation, we need to find out what students are learning, rather than answering the question of who is learning more than whom. If the purpose is selection, you don't have to ask the question about what precisely did they learn. If you're trying to understand the program in its whole, you need to know what they've learned and what they haven't learned and matters of that sort. The expansion of the purposes of educational measurement has, in turn, led to problems in developing tests to meet the many new purposes that we now recognize. One illustration of the misuse of testing instruments, for example, was the interpretation made by Coleman in the original study of educational opportunity. He did not realize that the achievement tests he was using were largely tests which were norm-referenced. In norm-referenced tests, items are eliminated if they do not sharply discriminate at around the 50 percent level between successful and unsuccessful students. If you look at those types of achievement tests and compare them with the curriculum, as we did in considering the development of the National Assessment of Educational Progress, you'll find that most of the time in achievement tests the items that are the most discriminating are those that aren't taught in school, but are learned in the home or outside of school. The discovery of Coleman that the correlation with home background and social class background explained much of the variation of scores in the achievement tests is simply a natural phenomenon of the way the test was constructed, rather than telling us much more about the nature of the students themselves. In fact to get a national test that will discriminate, since curricula are different at different grade levels throughout the country, almost requires you to take items that are learned outside of the school situation in order to get the variation and range that you seek.

I could go on to comment on the fact that we know now much more about learning, but perhaps I should end this section on where are we now by saying we are in a confused state. We know that we are no longer just trying to select. We know that learning is not just some unseen thing, and that it is not true that only certain types of people can learn. We know that psychometrics is now no longer the same thing as educational assessment or educational measurement because it is concerned with identifying something unknown or unseen in the psyche. Measuring variables such as intelligence and aptitude, which is the focus of psychometrics, often is helpful in understanding more about human behavior and human learning, but it isn't human learning. If we're to be credible with the public, we need to talk about learning in terms of things that are publicly observable: I can read; I can compute this way; I can handle this type of problem. We need to focus much more on performance evaluation. We need to look at and to employ people whose work has been primarily in understanding learning in real

situations—not short-term learning, but long-term learning, which is what schools and colleges are expected to do. We need to look at retention and performance appraisal and involve people with those backgrounds in educational measurement rather than to spend so much time in trying to identify something that we think is there. Psychometrics may help discover certain factors important to learning which may be useful, but they are not what school is about and it is not what education is focused on doing.

What can we do for the future? One can't really predict the future of human beings because futures are made by human beings. Two or three years ago Kenneth Boulding, in his address for the American Association for the Advancement of Science (AAAS), examined the predictions made by the futurist society about what would happen in 1980. The predictions, which were made back in 1960, were wrong in 80 percent of the cases. This was true because human beings, when things get intolerable, do things about it. They may do awful things, as when the inflation in Germany was so intolerable that the German people selected Hitler as their leader. They may do things which will turn out to be bad, but they don't let things remain untouched when they get intolerable. And furthermore, if they get dreams or ideas they do something about them as was true of the Crusades in the Middle Ages. So that notion that you can predict human behavor overlooks the fact that human behaviors make the future. I think the best metaphor is the case of the story told about the woman who was sleeping. She dreamed that a man was hanging over her. She woke up. There was a man hanging over her and she said, "What are you going to do to me?" He said, "I don't know lady, it's your dream." You younger people are the ones who are going to make this profession what it is going to be in the future. It is up to you. In comparison to the past, we know much more about learning and about the way in which persons interact in society. Can we translate that knowledge into tests, measurements, and procedures for evaluation? That, I think, is our challenge.

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Ralph W. Tyler in Retrospect

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In preparing the *Proceedings* of the Society for the Study of Curriculum History's Fourth Annual Meeting, I have been struck by two notions relative to the work of Ralph W. Tyler: first, that he was able to effect considerable change in curriculum practice in his half-century of work in education; and second, that many of his notions related to curriculum and evaluation have as yet been only partially realized. In summarizing Dr. Tyler's contributions to the curriculum field, I would like to discuss both of these perspectives.

It seems to me that a key accomplishment of Ralph Tyler has been to provide the field of education, and more particularly the curriculum field, with an outstanding example of a committed professional. Whether one agrees or disagrees with his philosophy of education, one must stand in sheer awe of his continued productivity over more than half a century. His activities as teacher, mentor, consultant, researcher, writer, and administrator furthermore seem to stem from a genuine desire to improve learning in our schools. His sincere interest in teaching and in the learning of his own students has borne fruit in the number of past and current leaders in curriculum and evaluation which received part or all of their training under him. Moreover, even when employed primarily in academia, he has attempted to stay in touch with the day-to-day reality of schooling in America, and he has used these experiences to formulate his own theory of curriculum planning. Tyler is also a scholar of the field of education, and in his writings he draws on the contributions of previous generations. In this area, as well as in teaching, consulting, and administration, Tyler combines theory, practice, and research into a coherent philosophy of education.

The development of what has become known as the "rationale," or simply as "the monograph" or "syllabus," must clearly rank as another major accomplishment of Ralph Tyler. In outlining the four questions—"What educational purposes should the school seek to attain? How can learning experiences be selected which are likely to be useful in attaining these objectives? How can learning experiences be organized for effective instruction? [and] How can the effectiveness of learning experiences be evaluated?"—Tyler presented a practical and useful guide to issues to be considered in planning the curriculum. While aspects of the first three questions had been widely discussed before the appearance of the rationale,

Tyler was one of the few to present a readable, organized, systematic discussion of issues related to the development of goals and objectives and the selection and organization of learning experiences. In adding the fourth area of evaluation, and tying it to the other steps in the process, Tyler completed the basic steps in planning which are included in most modern theories of curriculum development today.

A third area of accomplishment I find in Ralph Tyler's work is the effect his ideas have had on the practice of curriculum and evaluation from pre-school through higher education, in domains ranging from individual classrooms to institutions, and at all levels, local to international. Through the publication of *Basic Principles of Curriculum and Instruction*, his work in the Eight-Year Study, his consultations, and the accomplishments of his students, many ideas espoused by Tyler have been accepted and are in practice in our schools today. While not crediting Tyler with sole responsibility for all of these changes in practice, it does seem to me that he has had a key role in the following areas: acceptance of the notion that objectives should be stated and should refer to expected changes in behavior; that objectives should go beyond knowledge to include skills, attitudes, appreciations, and so on; that objectives should serve as the basis for evaluating a program; that the instructional methods and learning experiences selected should "fit" the intent of the objective; that the statement of broad goals and related objectives is an essential part of curriculum planning; that evaluation of the curriculum is an essential part of the planning process; and that the results of evaluation should affect the curriculum by revealing areas of strength and weakness. In my observations, I find that these ideas are in fact in practice in our schools, and most specifically in evidence in the accreditation standards for all levels of schooling.

I also see in Ralph Tyler's work a number of ideas which have affected theory far more than practice, or which seem to have been lost somehow in discussions over the value of the Tyler rationale. Many of these notions still have relevance for the curriculum field, and it seems appropriate to close these *Proceedings* by noting some ideas espoused by Tyler that may yet lead to changes in schooling. Tyler's view of curriculum planning is that it should be done at the local level, to meet local needs, and with an adequate time commitment to accomplish the many tasks related to curriculum planning. He believes teachers need to be genuinely involved in the actual planning process, and that with continued expert advice and technical assistance, teachers can develop programs to meet the needs of their students. He sees the importance of teacher education in the actual implementation of a curriculum plan, noting over and over in his writings that a change must be understood by the teachers if it is to be enacted. He espouses the concept that the curriculum be built on the interests and background of the students, and

rejects the idea that there is one particular form of curriculum which will meet the needs of the diverse student bodies in America. While many of these ideas related to curriculum are accepted in theory, I see little evidence that they are in practice, and particularly meager evidence that others share the faith that Tyler has that teachers can make decisions relative to the curriculum.

In the area of evaluation, Tyler has always seen evaluation as an ongoing process that should link efforts in curriculum and instruction and lead to the improvement of learning. This broad notion of the role of evaluation has yet to be widely adopted in practice, I believe, as have his ideas that in evaluation more than one type of instrument should be used; that one can develop instruments for evaluation if appropriate ones are not available; that instruments other than standardized tests should be used; and that evaluation and instruction methods must be in phase, or in tune, with each other if the process is to produce better instruction and learning. We seem to still experience considerable difficulty in sorting out our reasons for testing, confusing the function of testing in order to "sort," with attempts to valuate whether the curriculum is effective in producing the learning desired. Tyler's original notion that all faculty in an institution should work to achieve the broad goals of a school is yet another example of an area where changes may have occurred in theory, but are not as yet widely practiced. Quoting Benjamin Bloom, "The work which Ralph Tyler began in the early '30's is far from complete."

There will be a Conference on Critical Thinking at Christopher Newport College April 11–13, 1986. Some attention will go to problem solving and research in informal logic, but the bearing of work in these areas and critical thinking on teaching will be stressed. Among the speakers will be John McPeck, Trudy Govier, Arthur Whimbey, Ralph Johnson, Anthony Blair, Barry Beyer, Mark Weinstein, and Philip Pecorino.

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A Dialogue with Ralph W. Tyler

An interview conducted by
William H. Schubert and Ann Lynn Schubert
on October 12, 1980, in Chicago.
Tapes of the interview were transcribed
and edited by Ann L. Schubert, William W. Schubert,
Jenny Wojcik, Helen Kolodziey, and Kate Strickland.

Schuberts: Why did you go into education? What were the major contributing factors?

Tyler: I think that my explanation is like that of many others. I finished college in 1921, and had earned my way through as a telegraph operator working on the Burlington Railroad during the First World War. I worked seven days a week and got six dollars a day, which was a lot of money in those days. I planned to work one more year as a telegraph operator and then, with the money I had saved, go to medical school.

On the Fourth of July, 1921, I went to visit my folks in Lincoln, Nebraska. It was a holiday, and sometimes we got days off like that. Visiting my family was an old friend of the family named Haskins. His father had been a classmate of my father's at theological seminary. Haskins was principal of the Pierre, South Dakota, High School. He asked me about my work, and when he discovered that I had had all the sciences and mathematics, he said, "You know, throughout the war we haven't been able to get a science teacher in Pierre, South Dakota. Why don't you teach for a year or so? We need you badly and then you can go on to medical school." I said, "I don't have a teaching certificate." He said, "In South Dakota, with the great shortage, we could get you a temporary certificate. We do need you." That sounded like a good thing, so I agreed to do so.

So I began there, and again, like with many occupations, I became hooked. There was a group of children in Pierre who were so diverse: Indian children, about one-fourth of them who came out of the reservations near Pierre; cowpunchers' children, there wasn't another high school in the ranch country for 120 miles; children of the state government officials, because it was the capital even though it was a town of 3,000. So you had people of educated background and people who provided local services at the stores and so on. It was a very varied group. I discovered that you had to understand each of them individually. I became so interested in them and it was such a demanding and challenging job that when I finished that year I wanted to stay on another year. I wanted to go to Nebraska to get some work in educational psychology and other things that summer to be a better teacher.

I went to the University of Nebraska and there the head of the physics department said, "We have all of these GI's coming back with little background in physics and you seem to be able, from what I have heard, to teach young people who've had no academic background. Why don't you teach physics in the engineering college to the so-called remedial group, the group that has no background, for a year and you can continue your work." So I did teach them, and that came to the attention of the head of the secondary education department and he said, "Why don't you take the job of teaching in the University High School and supervising practice teachers in science, and you can take your courses in the evenings and summer and finish your degree in 1923." I did this, and finished my master's degree in 1923. I then was employed full time and was in charge of the training of science teachers at the University of Nebraska until 1926.

One day the head of the Department, Herbert Brownell, who had been at Peru Teachers College when I started kindergarten in the demonstration school with Sam Brownell, his son, called me. Professor Brownell, then the head of my department at the University of Nebraska said, "My son," (who was at that time superintendent of a little town east of there) "wants to go ahead and get a doctorate. I think he is an excellent administrator. He ought to go ahead and get his doctorate at Yale where Frank Spaulding, former superintendent of Minneapolis and Cleveland, is head of administration. He could get the best training there, and I'm going to loan him the money to do so." Now he said, "I think of you as one of my boys, but you are a scientist at heart, not an administrator and I think the best place to get science and especially psychology of learning is from Charles Judd at Chicago, so I'll loan you the same amount of money, if you want to go to Chicago." So, as I say, I got hooked in that first year; that's why I went into education. Isn't that a good reason? I like to teach.

Schuberts: Could you identify certain kinds of experiences that you have had that you think have contributed to your scholarly work? What are some of the prominent experiences that have contributed to your thought?

Tyler: If you consider that the contribution I have made which has influenced the largest number of people has been one of trying to look systematically at curriculum development, as expressed by that syllabus (Tyler 1949) which I developed at the University of Chicago, then I would say that the experiences of working with the schools in the Eight-Year Study contributed most. Teachers were given the freedom to teach; they knew the problems involved in helping to reach kids during the Depression. Suddenly the high schools, which had enrolled 17 percent of the student body of that age group, were now enrolling 51 percent. The high school enrollment had increased during the Depression because young people couldn't get work and had no place to go. Teachers and school administrators knew that the

problem was how to reach them; they knew that they needed something different, but they tended to get their vision distorted by conflicting ideas on curriculum development. There were groups of educators that believed the thing to do was just look at children's interests; there were the groups that followed Bagley, called Essentialists, and they looked at cultural heritage; and there were groups that were interested in how much society had changed, and they looked at changing society. It seemed to me through working with the teachers that when they got off any one of these ideas, it was just a tangent; there were a lot of other aspects in curriculum development to consider.

In 1936, we had been working with the schools in the Eight-Year Study and shaping a conceptualization of the curriculum without putting it all together. We had these workshops, which we developed in order to work on new programs, because we discovered that teachers couldn't plan just offhand. Teachers didn't have enough time during the year. So we got funds to support *workshops*—the name we gave to it. That was the first time the term *workshop* was used to imply that it wasn't just a talk conference. They were really going to work to develop educational programs for young people. The first one we had was in the summer of 1936 on the campus at Ohio State; in 1937 we expanded it and had one at Bronxville and took over the Sarah Lawrence campus. We had another one at Ohio State and an additional seminar in 1937 at the campus of the Colorado Women's College in Denver. Then the third year, in 1938, we had workshops in Bronxville, Columbus, Denver, and Mills College in Oakland, California. We had a whole range of places for these people to get the kind of opportunity to work on things and develop ideas for their teaching.

In the meantime, we had been able to found the Commission on the Secondary School Curriculum, which included Elliott Dunlap Smith, a graduate of Francis Parker School (Chicago). He was the brother of Perry Dunlap Smith, who was the president of Marsh and McLennan; now he has retired as the president of Marshall Field Foundation, and his daughter is president of Hampshire College. Elliott Dunlap Smith was then a professor at Yale and became provost of Carnegie Tech. We also began to have sub-committees; one on science in general education, one on language in general education, one on literature as exploration, one on social studies in general education. We were getting all of the materials related to subject matter background. We got funds to set up an adolescent study under Caroline Zachry and got to know more about needs of students, and we also began to work in the local communities to get a picture of the environment and its changing needs. So we began to shape these things on student needs, community changes, and subject matter related to the curriculum which hadn't before been brought together.

One day, in 1936–37, we were sitting at the faculty club at Ohio State University with the curriculum associates (I was not in curriculum, but Director of Evaluation). The curriculum associates were under the direction of Harold Alberty and included S. P. McCutchen (who later went to New York University in social studies), and H. H. Giles in English (who later became professor from New York University), and A. N. Zechiel in science (who later became head of the Country Day School at Erie, Pennsylvania).

Schuberts: They authored a volume of the Eight-Year Study (e.g., Giles, et al., 1942).

Tyler: That's right. They were primarily to help with curriculum, just as my job was helping with evaluation. Wilford Aikin, who was the Director of the entire study, interviewed the heads of the schools and they were saying that the evaluation staff was so much more helpful than the curriculum staff. Aikin said, "That's very funny because they need curriculum help." McCutchen said, "It's because Tyler has a rationale for evaluation that made sense to them, and they know how to proceed, but there isn't any rationale for curriculum." We got this from the morning session.

Then we adjourned for lunch, and I said to Hilda Taba (who was on our staff in social studies—one of the best of my associates), "Shucks, we can produce a rationale for them." She said, "You can!" I said, "Yes," and on a napkin I sketched out the basics of what later became the *Basic Principles of Curriculum and Instruction*; that is, the need to get data about the society, about the students, and all of these things. After lunch, I brought that back to them and they said, "That's just what we need." But it was just bringing together all the things that had been coming; as we had worked with them, I had seen this need, as the teachers had tended to go different ways because they didn't have a complete picture of the curriculum planning.

Schuberts: A lot of the influence on your thought, then, came directly from practical experience with curriculum and evaluation projects.

Tyler: One of the reasons I'm so much concerned *always* with bringing theory and practice together is that all my ideas have come from mulling over experiences. I don't think that ideas come out of the brain without in some way being connected with experiences that we have tried to interpret. So you see, even at this age, I try to spend at least two to three days a month in schools, or other educational institutions, and try to see what the problems are and what the reality is that you meet there.

Schuberts: In talking about contributions to your experience and to your thought, could you identify any key people who have had a really profound impact upon your educational outlook or your curriculum outlook? They don't have to be people in the curriculum or educational fields.

Tyler: I think that in terms of my outlook on learning and teaching and curriculum the people who have had the most influence are John Dewey,

Charles Judd, W. W. Charters, and Herbert Brownell, Sr., in my earlier years.

Herbart's influence in America was largely mediated by a group at Oswego State Teachers College, whose president, a man named Sheldon, was influenced by Herbart. Herbert Brownell, Sr., who had been my first boss at the university level in secondary education at the University of Nebraska, came out of Oswego and was a strong proponent of the five formal steps—you begin with where the student is. Though I had not had any courses in education when I began to teach, and fumbled my way through, I realized that if I were going to teach physics to William Sisioux, a big Sioux Indian (and an all-state football player), I had to find out where he was—what made sense to him. That notion of the formal steps, beginning with where the students are, was the first strong influence in the inductive teaching of science. You are not to begin with principles, but by helping students to understand the principles through deducing them to a considerable extent and then verifying them with other experiences of that sort.

Schuberts: So that is Deweyan as well as Herbartian; the Deweyan psychological as opposed to the logical.

Tyler: Yes, you move away from the notion that you just pour it into the student.

Let me turn to Judd's influence on me. I had been influenced by the educational psychology I took up at Nebraska. The people coming out of Teachers College, Columbia University, had worked with Thorndike, and I had taken the psychology of school subjects at Nebraska with a young woman who had gotten her degree with Thorndike. She had us read Thorndike's *Psychology of Arithmetic* which had 3,000 objectives in mind. I found it all so specific, and I thought a teacher couldn't possibly keep all of these objectives in mind. As a teacher that seemed impossible to me, and in the second place, my observations had been that there was much more generalization than specification. When I got to Chicago, and worked with Judd, he was emphasizing generalization. He encouraged me to do my study (in his class on advanced educational psychology) to *actually* test out this idea. I had second-grade children, with one group practicing in each of the one-hundred number combinations taking one digit numbers two at a time, and those in the other group practicing on only twenty-one combinations. The second group were helped, while practicing the twenty-one combinations, to see the general notion of addition—what it is. The group that had worked on the twenty-one did as well on the final test as the group that had practiced one hundred. This made me emphasize much more *generalized objectives*. And that's why I get irked at these people who follow Robert Mager's notion that you have got to break down knowledge into these highly specific objectives. They are not really objectives; they're only illustrations from which the kids can generalize about more fundamental principles or skills.

Schuberts: In *Basic Principles of Curriculum and Instruction* (1949), when you talk about behavior aspects, you are referring, it seems to me, to a much wider range of experiences—that is, behavior in general.

Tyler: What I call a behavioral objective, is for example, "learning to interpret data from experiments about biological materials."

Schuberts: Another of your illustrations, I recall, was "learning to appreciate the American novel."

Tyler: Yes. The different novels become illustrations, and the modes of response and criticism become behaviors you learn and connect with those illustrations.

Schuberts: Did you know Dewey?

Tyler: I talked with him. "Knowing," I would think to be too strong a word. He talked with me several times about the Eight-Year Study at my request, and we talked at some length about evaluation. He had not thought about trying to systematize evaluation of that sort. This notion about using a variety of evidence he seemed to approve. He had a way to looking away from you when he talked as he reflected: "Yes . . . I think that's . . . Yes! I believe you've got something there! I think that's the way it ought to be!"

Schuberts: I used his *Sources of a Science Education* (Dewey 1929) for a class that I taught this summer, and I found that it emphasized a kind of an orientation to science that is more an everyday, or at least as much an everyday, problem-solving kind of approach as it is an approach which would serve as justification for major empirical studies that are often done in Dewey's name. That is, science for Dewey was how you deal with your ordinary problems. Do you agree?

Tyler: For the normal citizen the problem is one of either understanding science, or getting some ideas about how to interpret experience, rather than expecting some magician to explain it all to you. W. W. Charters, of course, was an especially valuable mentor in such matters as "being concrete." The danger of a professor talking in general terms, and not being able to connect it, reminds me of Plato's discussion in the Seventh Book of the *Republic*, and the moving up and down of the divided line. That is, if you can't give a concrete illustration of a principle then you don't know the principle; correspondingly, if you can only give concretes, then you haven't yet generalized from them.

As my boss at Ohio State, W. W. Charters insisted on planning. Each of us in the Bureau of Educational Research had to produce a monthly report on what our goals had been, what we had accomplished during the month, what problems we had encountered, what we proposed to do about them, and what our schedule was for the next month in light of these problems. This was a very useful way of ordering your experiences, rather than just reflecting and doing nothing about it as many people do. And then Charters and I did some work together. The biggest job we did was the one with what was

then the Athenaeum and Mechanics Institute—what is now the Rochester Institute of Technology. We produced what the engineers then called the "Upside-Down Curriculum."

In the mid-twenties, the public-spirited industrialists, the civic people of Rochester, became concerned about their educational system because of the nature of the population in Rochester. Their industries were built on artisans largely who had come from Europe. Bausch and Lomb Opticals had lens grinders from Germany, Eastman Kodak chemists came out of Germany, General Railway Signal had electric people who had largely come out of England. They had a large number of immigrants from various countries there because there was a lot of employment in that industrial city of Rochester, New York. They were concerned about two things—one, opportunities for the children of immigrants to move up, to take more responsible positions than just unskilled or skilled labor of various kinds; and secondly, they were concerned with having an adequate trained and educated labor supply to meet the growing needs of this kind of society. Haloid Camera Company was then just a small company, but when they got the rights for xeroxing, they changed their name to the Xerox Corporation and became a very large corporation.

So the citizens asked Carnegie Corporation, which was interested in new educational ideas, to support a survey of the Rochester area and recommend what they might do to develop a post high school institution to meet the local employment demands, and to provide opportunities for young people, mostly second-generation immigrants, to learn the knowledge, skills, and attitudes required for these positions. A man who headed the Technical Institute of Massachusetts led the study, and they came up with a proposal that they take the old Mechanics Institute, which had trained mechanics, and the old Athenaeum, which had been a way for persons who wanted a liberal education to read books and other things, and put them together to make Rochester Athenaeum and Mechanics Institute. Later, toward the end of the Second World War, they changed the name to the Rochester Institute of Technology.

They put the two institutions together and then needed to devise curricula to meet the purpose of the new school. They appointed, as the new president of this organization, John Randall. He had been an engineering colonel in charge of the educational program of the war college in Washington. He had heard about Charters and when he came in, he immediately asked Charters to come and work beside him, together; he knew that testing and evaluation would be important, and that's what I was responsible for in the Bureau. We went to Rochester in the fall of 1929, and Charters stayed on until he died, coming there periodically. I stayed on until 1975, when they gave me the Founders Award. I was a consultant there for forty-five years.

When we began our work there, Charters and I made a survey of the occupations in Rochester. This was the equivalent again of the survey of society: we needed to know what occupations there were that needed persons that have more than a high school education and less that a four-year college education. We found a full range of such occupations, which has been modified as time goes on. But then, it included everything from construction supervisors, electrical technicians, technicians in the chemical area, retailers, buyers for department stores, and a number of positions in the health profession. We identified those occupations, and what kinds of things needed to be learned in each one. We worked with the staff in trying to work them into more generalizable principles and the like rather than just highly specific objectives.

One of the things we found out when we went to the potential students was that they were afraid of abstract material. They were born to first-generation immigrants who had been highly successful as lens grinders and other things of that sort. They came from a society that was highly stratified. People who went to college looked down upon others, and they in turn looked down upon people who had only book learning, implying they didn't know a damn thing. So, we ended up doing things that were revolutionary at that time. We developed a program that alternated every quarter with work, and that had an "upside-down" curriculum. It was a twelve-month program that took three years instead of two years to complete. The students would be three months at work, then three months at college, then three months at work. That gave us a chance to tie the theory and the practice together. In each of the areas, we started with the concrete and practical; the theory then became a way of explaining and understanding better what the students saw practically. The theory meant something, and that was why it was called "upside down."

Every engineering school, even today, tends to eliminate a lot of kids who might be good students because they require them to have had four years of high school math. Of course, for people coming from a family background where this stuff is viewed as just silly bookstuff, there is no motivation. But if you start seeing that you can handle that machine under certain supervision, you begin to wonder why it works. Then you begin to get the engineering and then the physics behind that, and ultimately the mathematics which enables you to generalize still more and measure more precisely what you are doing. That's what we developed in Rochester.

Schuberts: That sounds strikingly like the high school that my brother attends—Lane Technical High School—where they have a wide variety of experiences in the foundry, electrical shop, and so on. They alternate each half-year and they also have a lot of mathematics and science. In light of the upside-down curriculum, that seems to make more sense to me.

Tyler: Yes, and there are a number of cooperative work-study programs. In fact, the college cooperative programs have greatly increased since the

Second World War, and the high schools have a much larger number of cooperative programs in the technical areas and the distributive areas in such fields as retailing. In any event, that's the way in which working with Charters was systematic. Charters, as you can imagine with his Scotch background, was extremely systematic. Everything had to be planned. That was a great help to me, because I'm inclined to get excited about something and run off in too many different directions. His emphasis on planning helped to prevent that.

Schuberts: That upside-down curriculum which you talked about reminds me of a curriculum that was developed at Cornell a few years ago in social studies. Rather than beginning with study of theory and developing critical insights and then moving to ideas for applying things in the world of social problems, it started by having the freshman class students become engaged with people in problematic social situations. Students might, for example, actually interact with people in the ghetto environments and so forth.

Tyler: That's straight out of Dewey, of course. That's the kind of thing that he was interested in.

Schuberts: In addition to experience, and one's mentors, another influence on a person's life, thought, and action is the scholarly work that they regard as most important or best. What non-educational sources have had a big impact on you? I refer to fiction or anything. Are there particular authors or works that have had a major impact on you?

Tyler: I think this occurred when I was teaching the Great Books Courses at the University of Chicago. You remember that there was a good deal of emphasis, when Hutchins was there, upon Great Books Courses. I taught my course on Great Books with Milton Mayer, who later went to the University of Massachusetts and was very active. He was a writer, and we had a lot of fun. And then I taught Great Books with Harry Kalven, a professor of law. I found worthwhile the reading of the variety of Great Books that we chose, the discussions that went on, and seeing how Mayer and Kalven influenced our students. The influence of those rather two different personalities was fascinating—Mayer, a flamboyant quick reactor, clever, but wagging one or two strong beliefs so that he couldn't see the other side; Kalven, an ideal law man in the field, a professor of law, who died an untimely death of a heart attack several years ago.

The fact is, I learned a good deal from those experiences. We also ran a course on education as a field of study in which the three of us that taught it all had different backgrounds: Lawrence Kimpton, who later became the president of the University of Chicago, was a philosopher; Cyril Houle was in the field of adult education. It was a discussion class with our students, who investigated their proposed areas of study. Whenever you get team teaching like this, I learn a great deal from it. Don't you?

Schuberts: Yes, that sounds like productive team teaching.

Tyler: We'd had a class on educational experimentation. When I was back as a visiting professor at Ohio State in 1973, I taught a curriculum class with Elsie Alberty, the widow of Harold Alberty. I learned a good deal from her way of approaching the topic. I think wherever you have a chance to work closely with somebody you learn things from that experience.

Schuberts: You may be familiar with the people who contributed to a book by Wayne C. Booth entitled *The Knowledge Most Worth Having* (Chicago: University of Chicago Press). It's a takeoff on the old Spencerian question: "What knowledge is of most worth?"

Tyler: I haven't seen this book.

Schuberts: It was published in 1967, and it is about a conference that took place earlier at the University of Chicago that involved people like Richard McKeon, Wayne C. Booth, Northrop Frye, John Platt, and others. They all speak to the title question. It seems to me that it is inescapable, and it should be inescapable when you are talking about education, to address the problem of "what is the good life." I think the question of what knowledge is of most worth is surely related to that question. From your experiences, your ordinary educational experiences of life and also your formal education experiences, what kinds of ideas have you developed about what constitutes a good life?

Tyler: I suppose no one is able to articulate fully what consciously or unconsciously he believes and accepts. But my view is that a good life for a human being is one in which he is continually seeking to be more fully human; which means, to be more able to learn; to be more helpful to others; to contribute; to try to produce a society in which others have a deep respect for the potential of every human being, and an unwillingness to simply be saved by other people; and to be greatly motivated to seek to be part of that society that would make it better for each successive generation.

When I was chairman of President Johnson's Task Force on older Americans, in 1967–68, we found in the sample of 5,000 that we studied, that 26 percent felt that they did not have enough material resources (money to live on), and 28 percent seemed to have serious health problems. The vast majority, certainly as many as two-thirds, were concerned that they were being laid on the shelf. People were doing things for them, and they were not able to participate, and they felt a great sense of wanting to do something for others. They felt that they had a role to play in the world, and they were not satisfied in just lying around waiting to die or in getting laid on the shelf. I think that expresses my view as I get older too. I have no interest in just lying around. I don't want to just rest—there's no fun in that. I want to feel that I am learning, growing.

Each increment of education ought to open up new doors and new vistas of what it's possible to become, for me, and to help others to find the same

thing. I do not support the kind of educator who would try to identify the round pegs and the round holes as though you could fit a person into a niche, and who want them to learn to fit into the place for which they have been assigned. I don't believe people are assigned.

I think people have infinite potential for development and that the role of the educator is to help to encourage it—to help them to find ways to open up vistas for them to explore and never to settle for less than continuous development.

Schuberts: Do you think that education as formal education, public schools and so forth, has moved in that direction?

Tyler: Schools are only a part of what affects your personality. The schools are only a minor part of your development. What they can do is open opportunities, and some open more than others. Whatever the teacher may feel may have some influence on a younger person. Teachers may give the impression to this younger person, "Well, you're just a black child; you can't go anywhere." That is a terrible thing to do. But it still isn't a complete denial if a black child has a mother behind him. I recall John Johnson, who owns *Ebony*, telling me about his mother, poor as they were, saying, "You can make it! You can do it." No matter what the teacher says, they can go ahead. It is clear, I think, that we have a great many human beings—teachers, mothers, and others—who do not appreciate the potential in people and they want to settle for something less than the best. Haven't you found that to be the case?

Schuberts: Yes.

Tyler: Through my work I've tried to help teachers to see that there is very much more to it. I've got an article coming out shortly in *Social Policy*. It is titled, "If Not IQ, What?" It emphasizes this continuous search for the assets on which you can build, rather than trying to find out the things people can't do."

Schuberts: Do you think that in order to get people to develop in an educational system that moves toward that end, that it's necessary to have teachers who themselves are travelers on that same quest?

Tyler: Oh, I think it's a great advantage to have models in the school.

Schuberts: Is it possible for there to be a curriculum that could supersede a teacher who doesn't have that insight or that knowledge?

Tyler: It is possible for the child or an adolescent or an adult to learn a lot of things which the teacher has not comprehended, if that is what you're saying. If you begin to ask how that can become formalized as a curriculum rather than being found by the learner, that's a different thing to figure out, because you certainly can't go around the teacher. The teacher controls the classroom. The teacher's view of what is possible largely determines what kids try to do in the classroom. Some students, for reasons of motivation, of stimulation that lies beyond the classroom, go beyond what the teachers

have in mind. But the problem lies in the fact that for many, there's no such stimulating person. There is no help. The mother or father do not understand; they have limited vision. That's why it's so important to get more and more understanding teachers. I'll bet you got where you are not by depending wholly upon the insight of the teachers that helped you.

Schuberts: Quite true, although some of our teachers were also our relatives—mother, grandmother, great-aunt, father.

Tyler: You were fortunate. The difficulty is with those who don't have that sort of opportunity. That's why for some kids the teacher is the only possible way of getting out of the limited vision of their own experiences.

Schuberts: Do you have any feelings about the emphasis on educational policy studies that has emerged in the last ten years or so as a formal area of study? This area seemed to grow out of history and philosophy of education departments, in part as a way to appear more practical.

Tyler: Whenever something new is brought to attention, some persons want to say, "That's what we're doing." When the open classroom came they had lots of people saying, "We've got an open classroom." When the Spaniards came to the new continent they said, "You've got to be Christians." Suddenly, they discovered they were. A lot of people don't even know what the term *policy* means. They say we are in the *policy sciences* now. Harold Lasswell invented the term *policy sciences*. Probably you have seen his treatise (it was done about 30 years ago) that tried to make clear that whenever a study indicated that there were consequences for society it could be viewed as a policy science. That is, it provided information to guide policy. Now that's perfectly clear. There are a lot of people who don't really understand what they mean. There's no special course you can take in policy analysis. You have to understand the field in which you're working, the research you're carrying on, the principles that you've derived, the implications they have for the decisions about what schools are to do. Wherever there are decisions made by the governing group or by formal groups like unions who can control what goes on, those decisions might be policies. But I have found very few people who use the term with any understanding. It is just the new "in thing." As specialists they have not been widely recognized in the educational field as being important; they want to find something to do to be important. Does this seem sensible to you?

Schuberts: Yes, I was recently reading a book by William Reid called *Thinking About the Curriculum* (1978), and it's supposedly a policy-oriented book on curriculum. He suggests two or three roles for someone who is concerned with curriculum policy. One is to try to provide a wider array of possibilities for people who are in policy-making roles to consider, and to help them project probable consequences of each of the different possibilities that they see. This seems to me to be a reasonable approach to

policy analysis. I wouldn't say that it is an approach that is altogether new. It is something I think that good consultants in many fields have done for years and years.

Tyler: Yes. For example, a good illustration of a terribly important policy in New York City is the present policy that if a kid isn't making a B or better through the fifth grade, then he is not enrolled in the middle school and in the high school in any courses that can get him into college. The consequences of that policy can be studied and that is policy analysis. Another example is what happens when you add more students to a class; does the teacher handle the class differently when she has 35 as compared with 25. The decisions on how many students the teacher should have is a policy decison. But the kind of information you need, the kind of data, is another matter and is not necessarily provided by people in foundations of education. Some of the data may be provided by people in curriculum, or people in psychology of learning, or someone else.

Schuberts: I was thinking that William Reid's approach, when taken to the classroom level, sounds a lot like what you were talking about when you talked about resource guides for teachers in your *Basic Principles of Curriculum and Instruction*. I think that is such an important thing for a teacher to begin with, but I don't see that being made available to teachers. Or, if something of that nature is made available to teachers they often take it as some kind of recipe that they are supposed to concoct. Unfortunately, too many teachers seem to want to give up their creativity, give up their responsibilities, and just follow what somebody at a higher level might tell them to do.

Tyler: If I were in a position to work again with educating teachers as I was in the Eight-Year Study, it would be in the act of practice, to work on curriculum, to work in the place where the action is: in the local building and its environs, the teachers there, the pupils there, the parents that are associated with it. I would want to get together the kinds of questions we have to deal with to have a good school and meet the needs of this community. If we can get the support and help of the parents and enlist their responsibilities, we have taken a major step. As they discovered in the Eight-Year Study, there is no formula. Teachers have got to deal with problems in terms of the best knowledge they have and proceed from there. But as you say, people would like in some ways to feel that their job has a formula to solve it. But that isn't a professional's role. They don't have a formula.

Schuberts: So many of the problems have situationally specific answers. They all do to a certain degree.

Tyler: You can refer to principles and purposes and so on, but the particular answer has to be evolved in terms of that situation.

Schuberts: It's nice to have a broad context of theoretical knowledge

available to you so that you can know that Freud said such and such and Jung said such and such and Dewey said such and such and the whole array, but then you have to say, "What's relevant from that, that can be drawn upon for this situation? How do I have to tailor it to the situation, and what do I have to invent that is new just for the situation?" I am thinking of that upside-down curriculum, and I am also thinking about your notion of the philosophy of the good life that you shared with us. You described an education that is growing constantly. I am wondering how teachers or teacher training might be rearranged so that they, too, could have an upside-down curriculum. I have this notion of the home that you spoke of where the parents aren't interested in their children's future because there are all kinds of pressures—there's no food, no place to live, and I am thinking of teachers not being able to provide much help in the classroom. Maybe if they could actually be put in some other kinds of situations, maybe if they could live in different kinds of environments to see what's happening, they might have this spark in their mind and see their own role in a different view. Does this sound like a feasible program? Is that done anywhere?

Tyler: Yes, it is a feasible program. Let me make two kinds of comments. One, I think a feasible program is one that makes early emphasis on the mission of education. It is important to help potential teachers to see, as they get familiar with whatever group they are dealing with, that these children are born not appreciably different from those who were born two or three hundred years before. Yet, these children are expected to operate in a highly complex society and to operate not as persons who are dependent, but as active, constructive operators, and the only way by which they get that is through education. We have a tremendous mission and I would want to spend some time to help them begin to see that it isn't just a job. It is perhaps the most important mission one can have in the world. It is helping persons become more creative and then to begin to tie that with experience, with the particular age level that they are going to be teaching, and understanding where the learners are and some of the things that are required. At that point they begin to feel strongly about the mission, to see the importance of caring for the kids. They realize that you can't help a person like a machine and that people depend heavily upon emotional support, the feeling that somebody cares; they learn that they need to set high standards so that tasks are worth doing—not just Mickey Mouse stuff. Lots of teachers want to give easy assignments. They don't want an assignment that is too hard for students to succeed, but you don't want an assignment so easy that it is Mickey Mouse either. They need to learn how to get that experience with little simple things. For example, when I was mowing my housekeeper's lawn, I worked with a little black boy who is growing up in her home. He came up and I began teaching him. He had his little wheelbarrow, and I would pour grass

into it and he would take it to the dump. He could see that I was helping him to learn things by working with him, rather than standing there telling him what to do. Whatever the age, learners need some way to understand that teachers are human beings helping them to learn something. Teachers are not guards of a prison, and if they see that, then they begin to see some of the things to be taught. By that time, I think they are ready to go into the field and begin. Much of the rest of the more technical aspects can be done in in-service education. Is this relevant to what you've been thinking?

Schuberts: Yes it is. I ran across, a while back, an article that Dewey wrote in 1904 on the relation of theory and practice. He argued strongly against too early an experience in classroom situations in teacher education, and I think you are quite correct about developing the sense of the mission. If they have not developed this, they will model themselves after any kind of purveyor of a skills package or whatever model it is that they happen to see.

Tyler: Beginning teachers come with bright eyes and bushy tails and then they are told by the people around them that that is just a lot of idealism. By the time they have been influenced by the other teachers, most of them have most their fervor and it is no longer a mission; it is a job that they have to go through with.

Schuberts: When you talk about increasing the sense of human-ness that a person has it seems to me that what we are really talking about is one of the ultimate purposes of the curriculum development; namely, to enable teachers and students to become the curriculum developers of their own lives, to be able to consciously develop meaningful experiences and a sense of direction.

Tyler: Are you keeping in touch with that group of ASCD on self-directed learning? Delmo Della-Dora at California State at Hayward is contributing to this area and he's having a special conference for people that are interested in that. At the North Carolina State University there is G. L. Carter, Jr., who is working with students in related matters; he was at Wisconsin, and now is at North Carolina. They are trying to develop a learner's own personal curriculum, the goals and so on—very much of that theory.

Schuberts: You said that you were developing a revised edition of *Basic Principles of Curriculum and Instruction*?

Tyler: When Dorothy Neubauer died, I was about half-way through. She was a student of mine at the University of Chicago and she came through various professional stages. She was the editor of the *National Elementary Principal* and when she had an initial heart attack, she was relieved from that position and could only work half-time. The National Foundation for the Improvement of Education got a grant from the Ford Foundation for her to head what is called the Ralph Tyler Project. It is bringing together all the things that I have written and related documents. She was the initiator of it,

but she died of a heart attack in 1978, and I've got to pick that up again. I was just through the section of "objectives" and was moving into "learning experiences" when she died. But I want to finish that. There are two things that I am doing with the monograph. One is to get more modern illustrations and examples of things from the present time rather than those that go back to 1950 or earlier. The other one is to give more attention to the involvement of the students in their own development of curriculum.

Schuberts: In your re-assessment of the rationale that you did at Milwaukee (published in the book by Molnar and Zahorik, ASCD, 1977) you had modified two points relative to the out-of-school learning and more emphasis on the student role. We also share those two points of view, and have written a couple of articles on that topic. One of the questions that we think is really an important one is how to involve students in the process. Certainly, there is the teacher-student dialogue, a kind of relationship in which objectives and learning experiences and so forth are worked out. This approach is often bypassed. It involves talking seriously with students about what is meaningful in their lives and what needs they see for themselves. Learners are a good source of information on what the curriculum should be like for them.

Tyler: Yes. Indirectly, during the discussions, the students are projecting their own needs. During the Eight-Year Study, Alice Keliher was head of the Commission on Human Relations which studied interpersonal relations. We got permission from the major movie producers to take excerpts from their movies that presented situations typical of some of the problem areas of the young people in the secondary schools, like the problem of achieving independence from the family. By showing those and then discussing the characters, one could be projecting one's own feelings. You got much more understanding of where the child was having difficulties in achieving independence that way.

Schuberts: Why is teacher-pupil planning, discussed quite thoroughly in *Basic Principles*, so seldom used?

Tyler: We've got a long tradition that teaching is "presenting." When people ask me to speak on this subject, my first question is, "What does the audience expect?" Many people say, "We want you." I'm not interested in presenting something unless it connects with their concerns.

Schuberts: You seem to try to do that in your writing, too; you try to anticipate the audience and write from a psychological point of view.

Tyler: You don't communicate unless the communicatee is following in some way.

Schuberts: What would you say are some of the needs in curriculum theory?

Tyler: The need to tie it much more closely to practice and to the realities

of institutions which are concerned with curriculum. There is a certain limit to which you can go without tying it to the realities of the situation (which, of course, is what Joe Schwab has said several times), without tying into the commonplace. There are certain principles of learning and relationships which are useful whether you are talking about the medical school curriculum in America or the barefoot doctors in China or the present people's universities in China or the public elementary school in the United States; but there are also a great many differences that have to be understood and related to. Many people, in my opinion, get interested in general philosophic theory, or general social theory (especially Marxism), or general psychological theory, and are then cocksure they are relevant to the ongoing institution that has a curriculum and needs to improve it. You cannot develop curriculum without being concerned about particular phenomena. Who are my students? What are they here for? What do they want out of life? How can we help them to get it?

Schuberts: Do you see any unique curriculum problems of the city that aren't among the perennial curriculum questions? Do you see a separation between urban education and other kinds of education?

Tyler: Everything in the world is like and unlike everything else. It depends on whether you want to emphasize the likenesses or the unlikenesses. In one sense, of course, a large city is as varied within its boundaries as the difference between the city and the rural areas. If you look at the National Assessment of Educational Progress, for example, you'll find that the central cities—the so-called inner cities—are very much like the very remote rural areas like the Texas ranches. You have youngsters who have great difficulty in learning, and are very unfamiliar with an environment ten or fifteen miles away. In fact, in World War II, we found that many of the draftees from Chicago had never been outside of the neighborhood environment in which they lived. They didn't dare go; some other gang might be after them. On the other hand, the rest of the cities are much more like the suburbs in terms of their achievement.

Usually when they talk about urban education they are talking about the inner cities. We have a special problem with children who come from families that are uneducated and often from minority backgrounds. They are limited in their support at home because their parents don't understand the school; the children have also had a very limited geographic expansion of their experience. The requirement to meet their needs, to understand where they are, is in that sense special. The danger that I found in Detroit is that school people tend to talk about the things the inner city children have *not got* which middle-class children do. Finally, I said, "You can't build a program on what children don't have. You can only build it on their assets. Let's go out, each one of us (this was in an August workshop) to a particular block in

this neighborhood and watch children and talk to them for a day. Then let's come back and talk about what assets you've discovered in the children."

Inner city children are human beings. They're capable of learning. They have energy. They are motivated to do things that seem important to them. The problem of curriculum is to come in contact with them. But the purpose, the basic objective, is to help them become more human, to acquire the outlook, to acquire the skills of communication, and other things that will enable them to extend their horizon, to become increasingly separate from the normal existence that some people live in the very poor parts of the city.

Schuberts: We have some particular questions that we derived from our re-reading of *Basic Principles of Curriculum and Instruction* (1949). It seems to us that there have been some profound misinterpretations, or points of emphasis that have been taken and others that were just as strongly emphasized in the text, that people seemed to have forgotten about. For example, in your restatement (Molnar and Zahorik, 1977) of the basic principles, you said that two more emphases should be the non-school curriculum and the active role of the learner. But in re-reading the *Basic Principles*, we found you talked about both of those.

Tyler: Yes, I know. A number of writers also classify the monograph as being overly systematic.

Schuberts: We did not see evidence to support this "step wise" systematic interpretation of the rationale. It seems completely the opposite to us.

Tyler: Sometimes you start classifying apples before you've looked at the apples. These Winesaps have to go here and Jonathans have got to go there, regardless of what they are like. So it must be that some critics have already decided what the book must be like; so they assume it. Isn't that possible?

Schuberts: We made a list of some of the major points that we thought you were emphasizing, and also some of what we would consider the problematic interpretations that occur. A lot of the so-called problems seem unwarranted in view of what you actually said in the text. It is a text of only 128 pages to begin with; it seems that some people must be responding from secondary sources, because if they actually read the book, they wouldn't say some of the things that they are saying. For example, in the beginning, and all the way through, you emphasize the importance of a philosophy of life, and how critically that is interwoven with the idea of purposes. That, in a sense, seems to run counter to the usual interpretation of bare-bones objectives. A lot of people refer to you as the father of behavioral objectives.

Tyler: It is true that I emphasize that learning is acquiring ways of thinking, feeling, and acting. In that sense it is behavioral, although I keep saying that any kind of reaction a human being is capable of is behavior. But once you've got the idea that behavior is what the behaviorists emphasize, i.e., overt behavior, it's hard to think of another term, other than saying, "Ways of thinking, feeling, acting" all of the time.

Schuberts: We noted the point about how important having an overall philosophy is both for getting a sense of direction and a sense of purpose; you also emphasized the use of philosophy in analyzing or interpreting data.

Tyler: One of the attacks on the monograph is that I don't have a philosophy. I, of course, prepared this book not to sell readers on my philosophy, but to make clear for this wide variety of students (in Education 360 at the University of Chicago) from different parts of the world and different levels—medical, elementary, preschool, etc.—that they or their institution had to have philosophy. But I wasn't going to sell them my philosophy. I have a philosopy, but my role in teaching them was not to impose my philosophy, but to help them see that they had to clarify their own.

Schuberts: And this book is offered, we think, as an analytic tool.

Tyler: It is not a treatise on what I believe. It's a means of examining the kinds of questions that are faced by people who are working on curriculum.

Schuberts: And what some of the alternative sources of knowledge are for them, and so forth?

Tyler: Yes.

Schuberts: If you are making a revised version, we'd like to suggest that you say over and over again how critical philosophy is to all of these questions. Some people seem to assume that a philosohy is something that you get out of the way real fast, and then you can go on with the objectives, learning experiences, organization, and evaluation.

Tyler: I wish you had been in my class last Thursday, because we were discussing that. I asked each of my students to come in with at least three or four major points in their philosophy, and asked how it helped them in setting priorities of their objectives. They'd never tried it. As one principal said, she always thought that, "Philosophy was something that you did to impress people, as a lead-on in a store when you want to sell something cheap." She was quite perplexed to see that, "Some of my objectives don't fit this philosophy." That's a good exercise to have students carry on.

Schuberts: Many people don't see the connection between philosophy and curriculum or philosophy and research.

Tyler: They aren't using philosophy to prioritize, or even identify, their purposes.

Schuberts: Whitehead and Dewey both referred to learning as never fully made, but always in the making, and that kind of conception of philosophy is one that we think is of the utmost importance.

Tyler: And learning is not to get answers but to continually search. It's the quest, as Herb Thelen says. (Thelen, *Education and the Human Quest*, N.Y.: Harper, 1960).

Schuberts: The second aspect of the rationale; by the way, do you like your book to be called the "Tyler Rationale"?

Tyler: It doesn't make any difference to me as long as they know what you're talking about.

Schuberts: It's easier to say, *Rationale*, that *Basic Principles of Curriculum and Instruction*, each time.

Tyler: That's what I think.

Schuberts: Your interpretation of *experiences*, which is different from content, seems to be an aspect of the book that you clearly want to differentiate from activities as well.

Tyler: It is *activities* which you can direct much more. *Experience* is the interaction of the learner with the environment.

Schuberts: It seems like what you are saying is that it is much more difficult to plan an experience than it is to plan an activity. To plan an activity is just to have someone do this, and this, and this, but to plan an experience is more involved.

Tyler: It's like Ann; she can plan a menu and serve it, but she also has to think while she is doing it, who will eat it, will they like it, what interaction would make them ill. . . . It's that kind of thing. You can't control directly how my stomach is going to react to your food, but when she plans a menu these are the kinds of things she thinks of. She knows eventually it's the interaction of that food that she's after, not just to have it go down in the stomach.

Schuberts: But you are in a better position to make the decision or prediction if you ask what knowledge do students currently possess, what kind of experiences have they had or what repertoire of experiences do they have. That is why we think it is important also to study the outside-of-school curriculum. If anybody in any educational setting is going to offer something to somebody, presumably they are offering it to them because they think it's going to be good for them. How do they know that it's going to be good for them unless they know that the students know?

Tyler: That's right.

Schuberts: Or something about it, at least, if they've moved in that direction. So for some reason, then, simply because you say the word *behavior* you are aligned with the behavioral objective movement which actually comes much later, considerably after you had written *Basic Principles*.

Tyler: That is the present definition of it. I did use the term way back at the time of the Eight-Year Study. I manufactured the term originally, but not with the intent that it was going to be taken as little bits of things. But what happened was, of course, that Robert Mager, who was director of training for Litton Industries, working with girls who in a few hours learned to wind coils and so on, thought that these training objectives had something to do with educational objectives. Our role in education isn't to teach girls to wind

little coils. It is helping persons to understand, or at least to decide for themselves, how to wind coils if they have to deal with that sort of thing.

Schuberts: Or whether they even want to wind coils.

Tyler: That's right. Novices didn't understand the difference between Mager, and his work with training, and education, which has much more comprehensive and generalized objectives.

Schuberts: Speaking of that, this chart here on page 50 (Tyler, 1949) looks strikingly similar to Bloom's *Taxonomy of Educational Objectives* (1956). Did he base it on this?

Tyler: When I came to the University of Chicago, there were a number of colleges beginning to develop comprehensive examinations, so I invited the examiners from these various colleges (Michigan State, Antioch, Dartmouth, Iowa State, to name a few) to come the day after Thanksgiving to spend a weekend at our expense to discuss common problems of examining and to make examinations really reflect the objectives. One of the things that they thought about was, "My, there are so many different kinds of behavior that we are concerned with, why don't we classify them?" So Ben, who was under me (I was the University Examiner) as the College Examiner, and some others such as Dave Krathwohl who was an assistant in the examining office, began to take the material these people had brought in, began to take the different objectives for which they were trying to make examinations and made the classifications. That's what that was. But it's not an effort to say that's what should be. The *should be* grows out of your philosophy. If you want to think about it for examination purposes, you may say in thus and such a place they are trying to help them *analyze* motion pictures. Maybe that will give them a lead about what they are trying to do with TV programs, and we can begin to define more clearly what analysis consists of.

Schuberts: When first exposed to Bloom's taxonomy as teachers, we found it useful to simply have in the back of our minds that hierarchy, and say to ourselves, "Am I involving them in application, analysis, synthesis, and evaluation, or is it all memory work . . . should I . . . why?" It's a good conceptual tool, but again it's been misused.

Tyler: It has been misunderstood. In some ways people think that you can derive objectives out of a logical system, when what objectives are really, are the experiences of people about what's worth learning. You can have a lot of empty spaces in your classification because that particular content doesn't provide a good way to learn it.

Schuberts: I think it is impossible to get away from the idea that education is an ethical enterprise.

Tyler: Well, it is. When you're affecting persons' lives you've got to be clear about what is acceptable, not invade their privacy and warp their perspective.

Schuberts: The simple decision to say such and such is good for somebody else is an ethical decision.

Tyler: That's right.

Schuberts: That's why it's so important to be able to bring the best knowledge possible and the best thinking possible to bear on decisions like that.

Tyler: With the kind of philosophy I have, you consider everything as an opportunity for them to explore ways of behaving and reach a conclusion for themselves as to whether they want to continue that topic under study. Rather than saying, "You must be so and so," say, "Let's explore this and see what it offers. In the end it's your decision. . . ." Then you begin to think about all of the possibilities which you can explore in a good school.

Schuberts: To say that you should explore is to say that exploration is a valuable mode of operation. That's an ethical decision couched in a philosophy, and we agree with it.

Tyler: That's ethical, but it's not as absolute as saying it is what you should learn. It may be tentative. I remember, for example, a professor we had at Doane College, who was very enthusiastic about psychology. He had just come through the mail room and said, "Wow, a new article by McDougal with a new view of abnormal psychology. When I get through reading it I'm going to give it to you and some of the other students, in the advanced class, and then let's come together at my home and let's discuss it." It was exploring these new ways of looking at abnormality that became the exciting thing. We did not feel forced to believe that what McDougal said was true; we were exploring to see whether it made sense to us.

Schuberts: You refer here in the book (1949) to *norms*, and when I studied philosophy of education at Indiana University, we referred to normative arguments, having to do with values.

Tyler: I think I use the term *norm*, at least in relation to objectives, in the sense that whenever you talk about needs you have to have some notion of a gap between what is a desirable norm and what is present. You can't talk about children starving unless you have a norm about what is adequate food. You can't talk about the need to have a larger vocabulary unless you have some norm about vocabulary. Is that what you are discussing?

Schuberts: Yes, and we are also thinking of some misinterpretations. Some people move from that interpretation, because of the current use of the term *norm* associated with testing, etc., to *norm* as some sort of generalized prescription, which I don't think you were meaning.

Tyler: Neither one is; a norm in testing is not a generalized prescription. But that shows that they have not really come to grips with philosophic views about what norms represent. There are lots of people who seem to be going

into education without an adequate background in philosophy and history, and other things that give you some perspective. How can one work on the curriculum if he has no perspective of the society, or human nature, and other things? They're just going to be technicians. They might as well be sign painters.

Schuberts: That's a large part of the attitude of many of the students, though, isn't it? They want the recipes; they want you to tell them everything there is to know about education so they can go out and be technicians. What do you do about that? How can someone read your book (1949) and come out with the notion of norms such as the one we just discussed?

Tyler: If they haven't used the term before, it is possible for one to come out of something exactly the way one went in. Some people go to college with the hope that they can come out of it without even having been touched.

Schuberts: It's a classic illustration of the desire for pat answers that students want.

Tyler: It's a view of society and life that bothers me—how one could live to be twenty and think that there are any adequate answers that anybody has! Rather than that, they have to formulate their life and solve their problems.

Schuberts: A doctoral student asked a colleague of mine, "How many ways are there to analyze data?" The student wanted a number, quite seriously.

Tyler: I wonder what they did in their undergraduate study that they didn't reflect upon life and have some sense of history and philosophy and other things so vital to having a wider horizon than the very limited experience that each one has directly.

Schuberts: In *Modern Educational Theories* (1927), Bode says that one of the biggest tasks that educators have is to impress upon people the notion that life is an experiment and that there are no pat answers. It seems like very few people are willing to take that stance, but the ones who do seem to get the most out of life. Bob Stake wrote a piece not long ago in which he said that we overemphasize techniques of measurement, but we underestimate seeing or careful perception so that we can come to understand what's important to measure. We liked your emphasis on a lot of different categories of people being data gatherers, not just the so-called experts. We would like to explore the role of students as important data gatherers.

Tyler: Not just as subjects but as their own data gatherers.

Schuberts: They are data gatherers in their own daily lives. They gather data about what works and what life is like.

Tyler: Some do, but some think the answers to what life is like are what they've been told. There are problems in the family where papa and mama have all the answers and the child's only business is trying to live up to what they tell you.

Schuberts: So many educators want only to turn to so-called educational researchers or other authority figures for answers, while critical answers about the curriculum that actually takes place evolve through teacher-student interaction.

Tyler: I wish I could show you the outline I developed for a meeting this week with the school people and college people in Texas on how universities and schools may work more constructively and effectively together. (Discussion of compartmentalization of departments at universities).

Schuberts: We liked your emphasis on situational specificity of educational decisions. So often the unfortunate interpretation is, "What will the organizational patterns be from now on?" without considering specific interactions and so forth.

We think that a lot of the school board legislated curricula and skills management systems work contrary to the teacher's ability to interact with students.

Tyler: Especially if the teachers listen to it. Did you see that program on what is fourth-grade arithmetic? It was put on by the people at the Michigan State Institute for Research on Teaching. In any event they went to a city, and asked the curriculum director, "What do you teach in fourth-grade arithmetic?" He told them and gave them a printed outline. Then they went to each of the teachers and got different answers. Then they looked at the textbooks . . . and the achievement test. Finally, they visited classes. Every one of those gave a different picture of what they taught. The least dependable was the standard achievement test which contained only 20 percent of the items they were teaching. The teachers have often not heard of what it was that the curriculum director said was taught in fourth-grade arithmetic. They just taught what they thought was important, which might or might not be a good thing. You can't take too seriously that somebody legislates from above. They are wasting a lot of energy. Teachers, when they get into the classroom, rarely teach what tthey don't believe in.

Schuberts: It's like *Behind the Classroom Door* (Goodlad 1970).

Tyler: That's why it's so important to involve the people who are going to teach in the planning of the curriculum. Otherwise, it's all done up here and has nothing to do with what those kids are learning.

Schuberts: We liked your emphasis on education creating more social human beings rather than selfishly oriented ones. That's so incredibly important in society.

Tyler: It certainly is.

Schuberts: At the end of *Basic Principles* (1949) you clear up as emphatically as you can the problem of the stepwise interpretation of your four questions. We like to see the questions in an ecological interpretation.

Tyler: You need to shuttle back and forth. When you get a new understanding in any of the questions it affects all the others.

Schuberts: Like an artist's project in some ways, and of course you write about the teacher as an artist and creater. But time and again there are those who say, "There are the steps, 1, 2, 3, 4. You absolutely must do it this way."

Tyler: When people start with a belief of what things should be, they don't read very carefully.

Schuberts: On looking in the book on page 128, you put quotes around *no*, not an exclamation point. Maybe, in the revised edition you should put an exclamation point to clear up the stepwise, recipe interpretation.

Tyler: You know, in the church to which I belong, the Congregational, they have the Young People's Society for Christian Endeavor. When we would finish our Sunday services for young people, we would always say, "May the Lord watch between me and thee while we are absent, one from the other." Whoever cited that didn't read the *Bible* carefully. This was at the time Jacob was saying, "When I'm gone, don't you take my sheep." Without reading the context that seems like a good thing to say. He was saying, "The Lord's going to watch you. Don't you take any of my sheep while I'm gone." That's the way some of those who interpret the rationale as a recipe reason; they start out with a notion of what the words mean and don't look carefully to get the content.

Schuberts: You were involved in the *Research for Tomorrow's Schools* book by Cronbach and Suppes (1969), weren't you?

Tyler: I was president of the National Academy and was appointed to the committee, yes.

Schuberts: How was the book created?

Tyler: Books are developed when the Academy members identify issues that they think ought to be dealt with by a panel of members.

Schuberts: That's the Academy of?

Tyler: The National Academy of Education. I was the first president, 1965–69. Larrry Cremin was the second president from 1969–1973. Did you see their book on the value of research and how it gets into practice? That's the book that you might be interested in. We also got one out on the pros and cons of having a department of education. In general, we did not favor one because of the danger of getting more and more bureaucrats in Washington who want to run the schools. I think in the end the NEA (National Education Association) will feel sorry that it pushed Carter into creating that. I think it's a very bad idea, but we'll see how it works out.

Schuberts: How many members are there in the National Academy of Education?

Tyler: Seventy-five active. There are so many of us who are now emeriti that we are not counted. The emeriti include lots of people that you know: Robert Havinghurst and I, Bruno Bettelheim, George Counts who has since passed away, and Jean Piaget who just passed away this year. In any event,

there are seventy-five active members. The present president is Steve Bailey. There are sections on foundations (sociology, history, and philosophy of education), psychology of education, and so on—five sections, each limited to fifteen members. The academy was founded after a study made by Conant and others on the value of academies in helping to identify people who are really trying to make a careful, systematic, scholarly study of an area rather than seeking only power and publicity, and so forth. It includes lots of people who wouldn't call themselves educators; for example, Theodore Schultz who won last year's Nobel Prize in economics, some of his work has been on the economic value of education. He was studying education as carefully as he could in terms of his discipline. Bernard Bailyn, who is a professor of history at Harvard, is a members because of his work on the history of the colonial schools and what they meant. So there are people in various disciplines in addition to those who call themselves professors of education.

Schuberts: So they are from public and private universities?

Tyler: Oh, it has nothing to do with where they are stationed; it's their scholarship that's considered. There are foreign associates: Jean Piaget; Alexander Luria, the great Russian psychologist before he died; and our friend from the University of Stockholm, Torsten Husén.

Schuberts: He was Urban Dahllöf's mentor, wasn't he?

Tyler: I think so.

Schuberts: You mentioned in this book, or maybe in your recent assessment of the rationale (Tyler, 1977), that children learn less from out-of-school experiences now than they once did.

Tyler: There are less opportunities for constructive out-of-school learning. I could recount the likely reasons for that, such as less opportunity to learn by chores, and less conversations. In a study which I quoted on Friday, "The Youth Survey," by Daniel Yankelovich, showed that the average parent spends only fourteen minutes a day communicating with his/her child and twelve of those are telling what to do and not to do, rather than dialogue to help the child clarify his/her own experiences, the consequences of what they've done, the meaning and so on. There are a lot of data on that question. Are you interested in it? What's happened to the out-of-school learning opportunities of kids? One thing is the number of "latch key" children. As late as 1960 only 26 percent of the mothers of school-age children were in the labor force; now it's 59 percent. Many of them, especially the poor parents, can't afford babysitters—like this teenage girl who got pregnant and all she learned was how much fun it is to make love which is not exactly constructive at that age.

Schuberts: The alternatives the girl mentioned were so narrow. It was make love, watch television, or sit around.

Tyler: Yes.

Schuberts: When you think of the potential situations that she might be introduced to . . . .

Tyler: But you have to have somebody to organize them and make it possible. I could also, if we have time, talk about some of the schools I've seen where they've done something useful like the school in the worst area of Lubbock, Texas. But I don't have time for that. Someday we'll get together and talk about that, or about things that you've seen and I've seen. I try to get around the country and see interesting ideas in operation.

Schuberts: That would be great.

Tyler: But if you have questions go on. I just didn't want to keep you any longer than you have questions to raise at this point.

Schuberts: We could ask questions for an indefinite time.

Tyler: I expect to live longer.

Schuberts: We wondered if you had any advice for two people who want to make scholarly contributions to curriculum together.

Tyler: You have to find them for yourselves, but the way is to look at three kinds of things. One is your own interests and talents. What interests and talents do you want to bring to bear on it, because you certainly don't want to do something that doesn't demand the best you have to offer. The second is to look around at the contemporary scene to find out where there are some important unexplored problems. What are the things we don't know and should? As for example, you have already done this in getting much more into the history of curriculum development and knowledge. That's a very important thing. You talk about the people who have so little historical background. I'm afraid that we have people thinking about curriculum development who themselves have little knowledge of some of the things that you've been collecting, and that's an important contribution. I would also look at the opportunities and resources available that you can draw upon—the kind of colleagues you have, the kind of books, the places, the other things that enable you to say, 'Here's something that's really going to demand our talents; here is an area that's certainly in need of greater understanding or development.'' You may want to do both or either. ''Research'' I define as getting understanding of phenomena. ''Development'' is developing something in the light of that. And it's an area where we can get not only our own resources but such other resources as might be needed. If you keep looking around in those connections, I think you'll find some places. You've got good talents. There are certainly a number of problems about which we know too little, like what you've done with the history of curriculum books and so on. And there are certainly areas in which the resources of people and materials would be helpful to you.

Schuberts: We are very interested in this whole area of the outside-the-school curriculum and it seems to us to be very logically intertwined with the role of students in curriculum-making process.

Tyler: Are you familiar with what Hope Leichter is doing in the Center for the Study of Family as Educator, and trying to have participant observers try to find out how families control television viewing?

Schuberts: Yes, we are aware of this, and just did an article for *Educational Forum* (January 1981) on a closely related topic.

Tyler: But you have the possibility, for example, of looking at that problem several ways. One is to use participant observers to find what goes on in the day of a student. Not as detailed and painstaking as our friends did in that town in Kansas; you're familiar with Roger Barker's study. He had the day-by-day complete picture of a group of adolescents and how they spent every minute. You might look at that to show as much of the detail as you'd ever want. That's one kind of study. It's what Ben Bloom did, you remember, in studying how lower-class parents used resources that they had at home. Have you seen his recent book, *All Our Children Learning* (N.Y.: McGraw-Hill, 1981)? The emphasis is on alterable variables. Rather than talking about socioeconomic status that the teacher can't change, look at the things you can change. For example, differences of the same economic background at home between parents who do something, who have books, who encourage children, set aside time for study, and those who don't. It just happens that many poor people are rather ignorant, but it's quite possible for poor people to become very good parents even though they are poor. You could approach it from the point of view of studying children—finding the variations and what differences that makes in their school performance or other learning. Or you could start the other way and look at different kinds of homes or the environment of the workplace, the different playgrounds, and look at *places* where this goes on. That's certainly an area in which there is a lot of opportunity. We know too little about it.

Schuberts: I had a student who did his master's internship on the homes of several students from his class, and he went into five different homes. It was a rather limited study . . . .

Tyler: But he might have developed some techniques that made it easier to systematize such study.

Schuberts: He used three different frameworks for curriculum knowledge. He used your purposes, experiences, organization, and evaluation. He used Schwab's (*School Review*, August 1973) commonplaces; and he used Decker Walker's (*Curriculum Theory Network*, 1974, 4, 2–3) "What are the Problems Curricularists Ought to Study?" theme. He used those as central frames and compared the outcomes.

Tyler: As they develop technology that makes it possible for a number of people to compare and bring together material, then you begin to get a more comprehensive picture.

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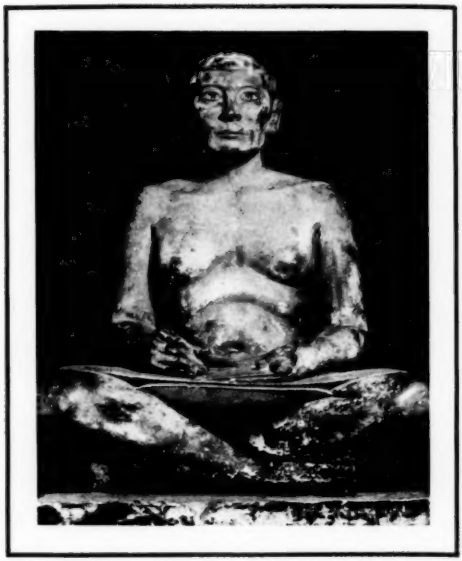

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